Managing for the money

Venture capitalists are backing new net monitoring and troubleshooting products from start-ups taking aim at traditional network management packages. PAGE 26.

Ben-Shaul

Face-Off

Are application-aware networks needed? Cisco's Issy Ben-Shaul says yes, but Raghu Ranganathan of Ciena disagrees. PAGE 34.

Ranganathan

Must-see TV? . . . Not!

Net pros tell columnist Paul McNamara what they think of Web-based TV invading corporate desktops. PAGE 54.

NETWORKWORLD

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April 17, 2006 ■ Volume 23, Number 15

NETWORKWORLD CLEAR CHOICE

CLEAR CHOICE TEST: VoIP TRAFFIC COPS

If you're expanding VoIP beyond a single domain, session border controllers are key. We tested four of them and NexTone came out on top. PAGE 38

Desktop search tools seen raising red flags

Consumer tools brought into workplaces expose companies to data leaks.

BY ANN BEDNARZ AND DENISE DUBIE

Instant messaging products crept onto corporate PCs and introduced a host of security, regulatory and management issues. In the same way, free desktop search tools — designed for consumers — are showing up on corporate networks and raising concerns about data protection.

Desktop search tools use local processing power to locate items inside e-mail and data stores. Three of the most popular are available for free from Google, MSN and Yahoo. Most industry watchers agree the products aid productivity: From a single interface, users can quickly search the text of their e-mail, contacts, application documents, data files, multimedia files and more.

The problem is the information these programs can find and potentially expose, such as documents on a shared file drive that are not properly secured or were supposed to have been deleted.

In fact features of these programs fly in the face of conventional IT security practices. One of the latest consumer versions of Google Desktop, for example, has a built-in feature that lets a user search for items across multiple computers. To do that, Google stores indexing information remotely, on its own servers. The software lets users exclude directories from the

See Search, page 53

Does open source encourage rootkits?

BY ELLEN MESSMER

Rootkits are becoming more prevalent and difficult to detect, and security vendor McAfee says the blame falls squarely on the open source community.

In its "Rootkits" report being published today, McAfee says the number of rootkits it has collected as malware samples has jumped ninefold this quarter compared with the same quarter a year ago. Almost all the rootkits McAfee has identified are intended to hide other code (such as spyware or bots) or conceal processes running in Windows systems.

"The predominant reason for the growth in use of stealthy code is because of sites like Rootkit.com," says Stuart McClure, senior vice president of global threats at McAfee

Rootkit.com's 41,533 members do post rootkit source code anonymously, then discuss and share the open source code. But it's naïve to say the Web site exists for malicious purposes, contends Greg Hoglund, CEO of security firm HBGary and operator of Rootkit.

"It's there to educate people," says Hoglund, who's also the co-author with James Butler of the book *Rootkits: Subverting the Windows Kernel*. "The site is devoted to the discussion of rootkits. It's a

See Rootkits, page 14

WiderNet

When devices just can't break

Makers of 'ruggedized' computers put products to extreme tests.

BY JOHN COX

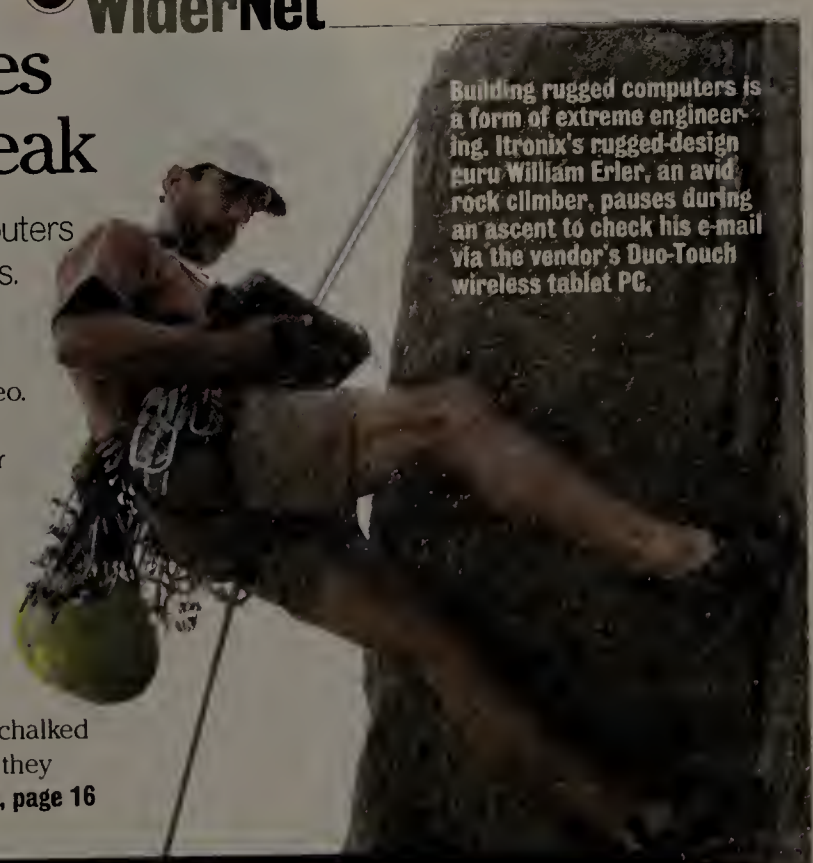
Don't try this with your Palm Treo.

A team of designers from Symbol Technologies last year made a routine visit to a customer site to see firsthand how Symbol's rugged-computer bar code scanners, mounted on forklifts, were being used in warehouses.

What they found set a new standard for rugged design.

During breaks, the forklift drivers chalked a bull's-eye on a nearby wall. Then, they

See Rugged, page 16



Building rugged computers is a form of extreme engineering. Itronix's rugged-design guru William Erler, an avid rock climber, pauses during an ascent to check his e-mail via the vendor's Duo-Touch wireless tablet PC.

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COOL TOOLS

The Samsung T709 is one of the first cell phones with Wi-Fi that is geared for the consumer market.
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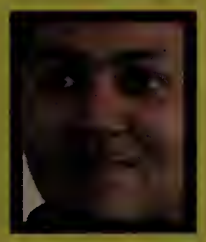
Clear Choice Test: Session border controllers

NETWORKWORLD CLEAR CHOICE

If you're implementing VoIP, a session border controller can serve as an effective traffic cop for VoIP flows. We tested four of them, and NexTone Communications came out on top. **Page 38.**

Ben-Shaul



Ranganathan

Face-Off: Do users need application aware networks?

Issy Ben-Shaul of Cisco votes in the affirmative, but Raghu Ranganathan of Ciena respectfully disagrees. **Page 34.**

■ **CONTACT US** Network World, 118 Turnpike Road, Southborough, MA 01772; **Phone:** (508) 460-3333; **Fax:** (508) 490-6438; **E-mail:** nwnews@nww.com; **STAFF:** See the masthead on page 14 for more contact information. **REPRINTS:** (717) 399-1900
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Securing the database
On *Network World*'s Hot Seat this week, Ted Julian of Application Security talks about the new threats to database security and what you need to do to protect your company's information and reputation.
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Searching for a new phone at CTIA
In Part 1 of our coverage from CTIA, Cool Tools' Editor Keith Shaw visits the Nokia booth in search of a replacement for his 3-year-old phone. Plus, find out how to correctly pronounce Nokia.
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Forum: Webaroo's 'Web on a hard drive'
Readers say it's either ridiculous, underwhelming or a lawsuit waiting to happen. See how the company responds to legal questions and leave your 2 cents.
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Diagnosing a broadband speed problem
Help Desk guru Ron Nutter helps a reader fix his router problem.
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New software service options
Is software-as-a-service a good idea for small and midsize businesses? Columnist James Gaskin explains.
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Branch management: Central approach is most popular
Analyst Robin Gareiss examines how IT execs manage their branch offices.
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U.S. collegiate programmers outclassed
Alpha Doggs, our new blog reporting on the future of networking as seen through the results from university and other labs, looks at the United States' poor showing at the International Collegiate Programming Contest.
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Seminars and events

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NEWSbits

CA to buy Cybermation

■ CA last week announced it will acquire Cybermation, a maker of workload automation software that CA says will broaden its products for managing mainframe software. The $75 million deal, set to close in 30 days, will augment CA's workload automation product portfolio, which consists of applications such as Unicenter AutoSys Job Management and CA-7. Cybermation, whose customers include Allstate Insurance and Moen, will provide CA with technology to help customers consolidate multiple scheduling tools across platforms, operating systems, applications and databases to provide a centralized management platform, CA says. Despite talk of mainframe products losing steam, IDC estimates the job scheduling software market will grow to $1.8 billion in 2007. Last year CA augmented its mainframe portfolio by acquiring technology it had been reselling from InfoSec.

Server spec in the works

■ Officials from the Environmental Protection Agency met with executives from Sun and other companies last week to create a standard energy efficiency metric for servers, furthering the focus Sun has placed on energy efficiency since the introduction of its most recent line of servers. Advanced Micro Devices, a supplier of chips for some Sun servers, and the Lawrence Berkeley Lab also attended the meeting. The group hopes to define a common measurement that server makers can use to indicate the energy efficiency of letting customers compare and choose products based on the common measurement, Sun says. The group hopes to complete and introduce the metric in mid-2006. When Sun introduced its T2000 servers based on its UltraSPARC T1 processors late last year, the company highlighted the low energy consumption of the products.

Support ending for Windows 98, ME

■ Windows 98, Windows 98 Second Edition and Windows Millennium Edition are nearing the end of their support from Microsoft. The software vendor will stop supporting these operating system editions on July 11, according to information on its Web site. All public and technical support and security updates for the products will be suspended, the company said. However, online self-help support will be available on Microsoft's support Web site until at least July 11, 2007. Microsoft considers these operating systems outdated and therefore security risks to customers, according to its Web site. Microsoft recommends customers still running these operating systems upgrade to newer versions of Windows, such as Windows XP, as soon as possible. Microsoft originally planned to end support for Windows 98 and ME in January 2004, but extended that to June 30, 2006, before announcing in January that final support would come on July 11 to allow for some last security patches.

{quote of the week}

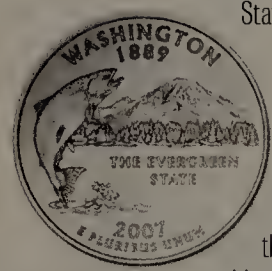
"The Rootkit.com site is there to educate people. But it is a forum that could be used maliciously."

Greg Hoglund, CEO of HBGary, which also runs the Rootkit.com Web site

See story, page 1

TheGoodTheBadTheUgly

Iceland atop broadband world. The Scandinavian island nation has the highest penetration of broadband subscribers, at 26.7%, according to the latest numbers from the Organization for Economic Co-operation and Development. The United States ranks 12th in penetration, though it has the highest overall number of broadband subscribers, at 49 million.



< Hackers at center of this fish tale. Washington state is redoing a public vote on the official state quarter design (two of the three proposed designs feature salmon) because of computer programs that stuffed the online ballot boxes. A revised system will limit citizens to one vote at www.governor.wa.gov/quarter/default.asp

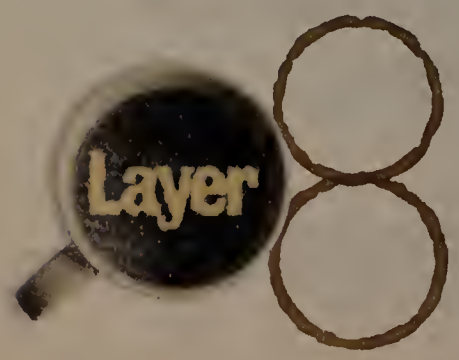
Your laptop or your life. *The San Francisco Chronicle* reports that hot spots for laptop users are becoming hot spots for crime as well, with an increase in cases of laptop users being held up at gunpoint or otherwise threatened. Police say with more people bringing their laptops to public places, robberies have risen sharply.

Mobile domain set to take flight

■ In a move to drive uptake of mobile Internet services, mTLD Top Level Domain will begin next month to issue Internet domain names geared toward mobile devices, coupled with a set of design standards. The .mobi domain name, which has been approved by the Internet Corporation for Assigned Names and Numbers, is reserved for Web sites designed to work with mobile handsets. The aim of the new venture, established by Microsoft, Nokia and Vodafone, is to make mobile Internet services easy to use and affordable to develop, said Neil Edwards, CEO of mTLD in Dublin, last week. Companies holding trademarks can apply for .mobi domain names during a limited industry sunrise period from May 22 to May 29. This phase will be open to more than 10,000 companies and associations in the mobile phone industry. A general business sunrise registration will follow from June 12 to Aug. 21.

Screen savers seen as lifesavers

■ A research institute is harnessing the power of thousands of computers over the Internet to investigate potential drug treatments for deadly avian influenza. The Rothberg Institute for Childhood Diseases, in Guilford, Conn., said last week it had detailed the first mission for volunteers participating in the distributed computing project. Volunteers download a screen saver program that simulates the binding of drug molecules with proteins — referred to as targets — in avian flu, the institute said. The screen saver, which is visible in a computer's program tray, kicks in when the computer is idle. The institute likens the process to hunting through a batch of keys — meaning the drugs — to find the right one that fits a protein in the virus. The results are sent back to the Rothberg Institute when the computer is connected to the Internet. The institute said 80,000 volunteers in 93 countries are participating in the project.



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Symantec broadens e-mail security

BY CARA GARRETSON

Symantec this week plans to announce an integrated e-mail gateway product that represents the beginning of the company's multiyear strategy for competing in the enterprise messaging security market.

Symantec Mail Security for SMTP 5.0 is an upgrade to a product the company has sold since shortly after it bought anti-spam software maker Brightmail two years ago. Version 5.0 goes beyond the previous release by including content filtering along with gateway anti-spam and anti-virus features, and by integrating the once-separate products to the point that the Brightmail name is no longer used.

The key advantage of integrating these gateway software products is easier administration for enterprises, from tracking the path an e-mail takes on entering the network to establishing one set of policies for virus, spam and content filtering functions, says Rick Caccia, senior director of product management with Symantec's enterprise messaging management group. Symantec is in a position to provide a soup-to-nuts approach to messaging security, because it has developed or acquired nearly all of the technology that enterprises need today to protect their e-mail, he says.

"Until recently it was hard to buy a complete way to manage" e-mail security, Caccia says. "But the market is changing and customers are asking for more from one vendor."

Symantec plans to integrate more of the products in its enterprise messaging management group so that there are fewer offerings with more features, Caccia says. The company will continue to sell its e-mail security appliance and hosted service as separate offerings, he says, although features from Symantec Mail Security for SMTP 5.0 will end up in those products as well.

"The advantage of having an integrated anti-spam, anti-virus and content filtering product is that it provides a single solution to combat the majority of e-mail security issues," says Nathan Pilgrim, manager of IT infrastructure and communications with Brisbane Girls Grammer School in Australia, which has about 1,300 e-mail users. "From a management point of view it is a lot easier to manage a single product from one vendor than multiple products from different vendors."

Symantec is not alone in offering anti-virus, anti-spam and content filtering in one enterprise package. Hosted service providers Postini and MessageLabs, gateway software and hardware makers Proofpoint and Mirapoint, and appliance vendors IronPort and CipherTrust are competitors offering these features and more. However, Symantec is one of the few companies that owns all the parts in its enterprise offering — most of its competitors license anti-spam or anti-virus filters or both, and often from Symantec.

With this release of its e-mail security package, Symantec also is adding features such as message tracking and LiveUpdate.

"Symantec wants to be the enterprise messaging vendor of choice," says Eric Ogren, an Enterprise Strategy Group analyst. "Messaging tracking and LiveUpdate are the kinds of things Symantec does better than anyone else."

Not everyone agrees with Symantec's view that the market for messaging security is being whittled down to those companies that can provide one-stop shopping. Just a few years ago the market consisted of dozens of vendors making anti-spam filters, but it has evolved into companies with more complete offerings including compliance, archiving, encryption, instant-messaging protection and more.

"Symantec is taking all their individual components and stitching them together, while we take the best of breed and stitch them together," says Tom Gillis, senior vice president of worldwide marketing with IronPort, which licenses Symantec's Brightmail anti-spam filters and its anti-virus software to resell with its gateway appliances.

"Symantec's products appeal to someone looking for a single vendor, but we've been successful in more sophisticated accounts where the customer understands [the need for] multiple layers and multiple vendor strategies."

Symantec Mail Security for SMTP 5.0 is slated for release in May. Pricing ranges depending on the number of users; for example, organizations with 500 to 1,999 users would pay $18.70 per user, per year.

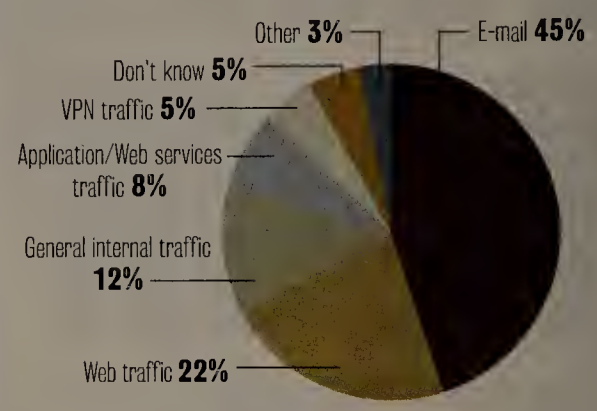
New features include zero-day virus protection, which quarantines e-mails suspected to be viruses based on the messages' characteristics until a signature is produced, says Matt Hartwell-Herrero, senior product manager.

New content-filtering features include regular expression and keyword scanning of more than 200 attachment types, and can determine an attachment's true file type by inspecting it physically, instead of relying on the name of the extension, he says.

Administrative features include graphical message auditing to search for e-mails by a variety of characteristics, such as sender or recipient, and show the path that a message has taken through the organization. Also with this release, Symantec has integrated its LiveUpdate anti-virus technology, which automatically updates policies, to work with its anti-spam features. ■

The biggest hole

Symantec is looking to grow its presence in the enterprise messaging security market as many organizations list e-mail as their point of greatest vulnerability. In a survey conducted last year by Enterprise Strategy Group, 251 respondents said their organizations are most vulnerable to attack through the following types of traffic:



EMC to debut low-end virtual tape library

BY DENI CONNOR

EMC is scheduled this week to roll out a new low-capacity virtual tape library appliance that uses inexpensive Serial Advanced Technology Attachment drives to make it affordable for small and midsize businesses.

The DL210 Clariion Disk Library (CDL), which starts at $50,000, has a capacity ranging from 4T to 24TB of disk space. The CDL software also has a new management interface and wizards that make the library easier to install, configure and maintain.

The previous Clariion DL310, DL710, DL720 and DL740 disk libraries started at $110,000.

One of the most interesting features is that all of EMC's CDLs now support IBM's mid-range iSeries (more popularly known as the AS/400) servers, says Diane McAdam, senior analyst for the Clipper Group. "Even though most VTL vendors support different drives and libraries, EMC's support of the iSeries servers is a market many vendors ignore," McAdam says. "There are still a large number of shops running iSeries processors."

On its own

EMC's Clariion Disk Library is the only one that works with IBM's iSeries servers.

The iSeries market has continued to grow since the early '70s. According to IBM, about 20,000 new iSeries customers are added each year, 80% of which are SMBs.

Other VTL vendors, such as Diligent, Sepaton and Data Domain, do not support iSeries servers.

The new DL210 also supports ADIC's Scalar 24 and i500, Quantum M Series and Overland Neo Series tape libraries.

EMC also has enhanced its CDLs by integrating them more tightly with its Legato NetWorker backup application. This integration will make it easier to manage tape cartridges as they are migrated from the VTL to the physical library.

The CDL software also adds tape shredding capability for secure data erasure and a command-line interface for storage administrators who want to deploy scripts to manage the CDL. The DL210 is available now, and these features are expected to be available by June. ■

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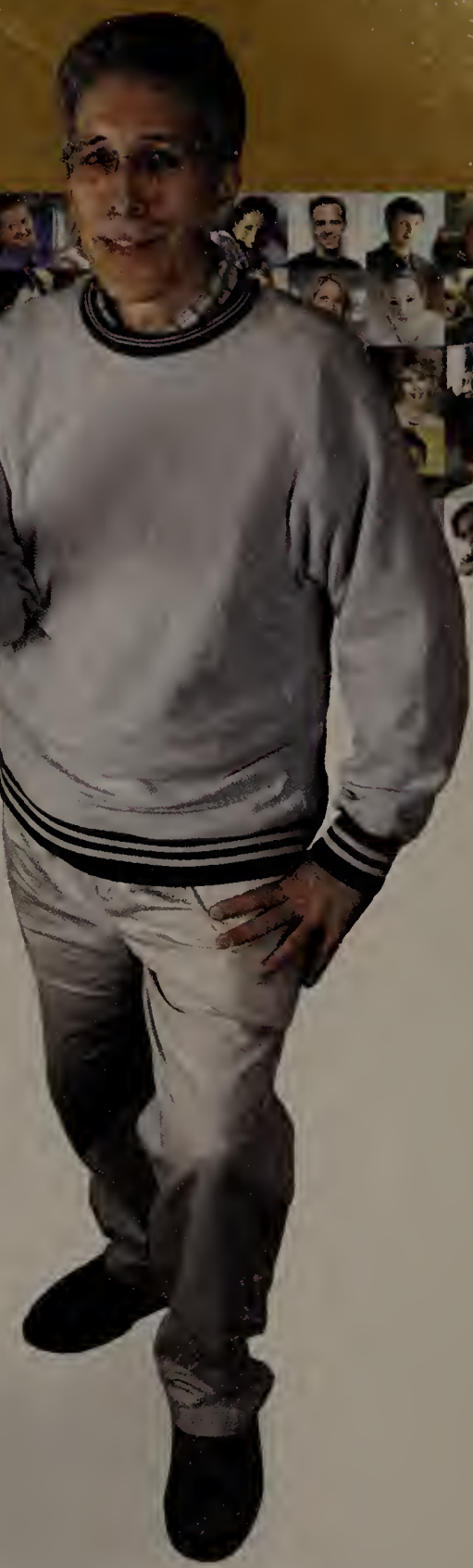

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Building Networks for People

Red Hat, JBoss kick open source up a notch

BY JENNIFER MEARS

Red Hat's plan to acquire leading Java application server vendor JBoss probably will result in more corporate interest in open source software, because the two companies could provide customers with the first one-stop shop for a community-developed application platform.

The challenge will be in how well Red Hat integrates JBoss' Java-based middleware suite into its products and how well it maintains existing relationships with third-party vendors such as IBM, which are focused on competing Java application servers, analysts say.

For the most part, however, industry observers agree that the move is a smart one and should be good news for customers looking for a reliable provider of open source software.

"This is excellent news for me as a Red Hat customer," says Jim Klein, director of information services and technology at the Saugus Union School district in California. "Having a certified, Red Hat-supported JBoss will not only further legitimize JBoss — and perhaps Red Hat — as a viable enterprise-class alternative, but likely will continue to improve perceptions of open source as a whole in the minds of corporate IT."

It's that kind of thinking that JBoss executives hoped for as they made the decision to sell the company to Red Hat. The two companies announced last week that they have entered into an agreement in which Red Hat will acquire JBoss for $350 million, plus $70 million should JBoss meet certain performance metrics. The acquisition should be completed by the end of May.

Analysts say the acquisition is Red Hat's most aggressive step yet in its effort to move up the stack beyond its Linux operating system roots, but they point out that several hurdles remain.

One of those is to integrate the JBoss software successfully into the Red Hat Linux distribution, while maintaining the vibrant JBoss development community that has pushed the open source application server to the top of the middleware market.

"JBoss has to maintain the community. If Red Hat doesn't allow it to maintain the community, then the deal is a failure," says George Weiss, vice president and distinguished analyst at Gartner.

Red Hat says JBoss will operate as a semi-independent entity. That should be good news for those running its middleware on non-Red Hat operating systems, especially Windows. JBoss, which inked a deal with Microsoft last year to improve interoperability, says about half its users run its products on Windows.

"There is the potential problem of Windows users who will now see the Red Hat acquisition as a Linux play that may jeopardize the future momentum of JBoss on Windows or JBoss' relationship with Windows," Weiss says.

Questions also could arise regarding Red Hat's relationship with IBM, which is focused on the competing Apache Geronimo application server and recently announced a partnership with Novell to bundle SuSE Linux with its WebSphere Application Server Community Edition — a free version of its Java 2 Platform Enterprise Edition application server built on Geronimo.

"The issue of what IBM will do with Red Hat vs. what they might do with Novell might start skewing a little more toward Novell, so that's something you have to look at," Weiss says.

Nevertheless, industry observers say the Red Hat-JBoss pairing makes sense, and call it a reflection of the rapidly maturing open source market. A key point is that while commercial vendors have been snapping up open source firms, this represents the largest pure open source deal to date.

"Of the firms that JBoss could have sold to, we definitely consider Red Hat to be a very reasonable alternative," says Barry Strasnick, CIO at CitiStreet, a benefits management company in Quincy, Mass. "We already run all of our JBoss instances on Red Hat, thus we consider this to be a win-win."

Saugus Union's Klein expects the acquisition to give both Red Hat and JBoss a boost in the enterprise software market.

"Red Hat has been a little weak in the application server and middleware space, as their existing offering — Red Hat Application Server — lacks much of the refinement of more mature solutions, such as JBoss," he says.

Saugus Union uses the Apache Tomcat Web server, but is looking for an application server to anchor its move into service-oriented architecture. "We have looked at BEA's AquaLogic and a few other tools, but, now that we can get support, and perhaps training, from Red Hat, JBoss is looking like a winner," he says. ■

Stuck in the middle

With Linux servers in data centers, Red Hat is shifting its focus further up the food chain. A look at its moves into middleware:

- **April 10, 2006:** Announces plan to acquire JBoss for $350 million.
- **December 2005:** Says it will roll out precertified open source software stacks, including Web and application server middleware components.
- **June 2005:** Introduces Red Hat Directory Server, built on technology acquired from Netscape.
- **September 2004:** Announces agreement with AOL to acquire some assets of Netscape Security Solutions, including the Netscape Directory Server and the Netscape Certificate Management System.
- **August 2004:** Introduces the Red Hat Application Server, based on the Java Open Application Server, developed by ObjectWeb.
- **December 2003:** Outlines its Open Source Architecture, which includes open source middleware developed by Red Hat partners.

Yipes hikes Ethernet SLAs

BY JIM DUFFY

Yipes Enterprise Services this week is expected to boost its Ethernet service-level agreements in an effort to provide stronger guarantees for delay-sensitive applications.

The new Yipes network services SLA, available on all new service orders, includes benchmarks for metrics such as jitter and packet delivery, in addition to guaranteed route-specific latency. Previously Yipes did not provide SLA guarantees on jitter and packet delivery.

Yipes says the move comes in response to growing market demand for stronger network performance assurances for enterprise applications such as VoIP and video conferencing. The enhancements are facilitated by a new, proprietary Yipes network-performance measurement system, called HawkEye, that provides customers with access to real-time traffic monitoring, management and analysis information on their service.

Yipes is offering customers a jitter SLA of 250 microsec — or .25 millisec — as measured across Yipes' global Ethernet network. This compares to the most common industry SLAs, which guarantee a jitter metric of 1 millisec (1,000 microsec) or higher.

Verizon, for example, offers a jitter SLA of 2 millisec 99% of the time for real-time class of service (CoS) on its Ethernet Virtual Private Line offering (www.nwdocfinder.com/3033). And AT&T recently lowered its jitter rate to less than 15 millisec from 20 millisec for the Silver CoS on its Opt-E-Man optical Ethernet service (www.nwdocfinder.com/3034).

Jitter is an important metric to measure and monitor because it refers to the recurring changes in the timing of a data stream. These changes can degrade voice connections, make video appear jerky and affect in a negative way other network applications. Controlling jitter has become increasingly important as more enterprises move to time-sensitive applications such as multiple-feed videoconferencing and VoIP telephony.

Packet delivery, which measures the percentage of data packets successfully delivered, is the leading barometer of network consistency and reliability, Yipes says. Under its new SLA, Yipes offers a guarantee of 99.9% delivery. This matches AT&T's Silver Opt-E-Man SLA and Verizon's Ethernet Virtual Private Line/Real-Time delivery SLA.

Route-specific latency is a measurement of delays in packet transmission across a network. Yipes now offers guarantees between the metro areas it serves. For example, Yipes' latency SLA on a New York to Chicago route is 27 millisec, and the SLA on a New York to Philadelphia route is 7 millisec. Should Yipes fail to meet these SLAs, the carrier will rebate 10% of the total monthly recurring cost for latency and packet-delivery, and one-thirtieth of the MRC for jitter.

One industry expert views the new Yipes SLAs positively — with a caveat. "SLAs are a little mushy in the way they're described — once you get averages involved there's a lot of play in the minute-to-minute service that you do get," says Michael Howard, principal analyst at Infonetics Research. "But these guys have really tightened down the screws."

Yipes says there is no increase in service prices associated with the new SLAs. ■

New service metrics

A new service monitoring system lets Yipes Enterprise Services offer tighter Ethernet service-level agreements.

	Old	New
Packet delivery	N/A	99.9%
Latency	10 millisec (metro)	5 millisec (metro)
Jitter	N/A	250 microsec

SOURCE: YIPES

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Start-up touts answers for VoWi-Fi

Multifunction appliance and dual-mode handset software ties together WLAN and cellular.

BY PHIL HOCHMUTH

Start-up Divitas Networks is expected to debut this week with technology for tying together corporate wireless LANs, cellular networks and Wi-Fi hot spots as one mobile voice and data network.

The company, founded by technologists formerly with Cisco, Nokia, Sycamore and Verizon, makes an appliance that does many things: VoIP call control; WLAN roaming, handoff management and security; VPN termination; and XML data delivery. The product is intended to let enterprise users with dual-mode voice-over-WLAN (VoWi-Fi) and cellular handsets, or handheld devices access a corporate VoIP and data network from anywhere.

Divitas is to announce itself as a company Monday. Its product is expected to be launched in July.

"So far, the industry has not done a good job with VoIP and mobility," says Vivek Khuller, Divitas CEO. Two issues are the lack of fast roaming and QoS on internal VoIP-enabled WLANs, he says. Another is the complicated technology behind handing off live calls between an internal VoWi-Fi and external cellular network. While dual-mode Wi-Fi/cellular handsets are emerging from Motorola and Nokia, most handsets offer an either-or technology — VoWi-Fi or cell phone calls must start and end on each respective technology and network.

Divitas' Mobility Communications Platform is a Linux-based appliance with customized ASCI software technology. It sits outside a corporate firewall and works with a similar unit running inside the security perimeter. The device inside the firewall ties into a corporate IP PBX via a Session Initiation Protocol trunk, allowing internal IP desk phones and dual-mode sets to be on the same dial plan. An Asterisk IP PBX component on the appliance handles all call control for wireless clients, and also acts as a proxy for external public switch telephone network and cellular network access.

The appliance also acts as a WLAN controller for handset clients attached to 802.11a/b/g networks. It tracks the connectivity status of all Divitas-enabled devices, and manages Layer 2 and Layer 3 WLAN roaming, address translation and QoS settings as users move among WLAN access points.

The Mobility Communications Platform appliance sitting outside the firewall links in dual-mode handsets connecting via a Wi-Fi hot spot. VPN software creates a secure tunnel between the phone client software and the appliance, allowing access to a corporate VoWi-Fi network. The hardware appliances and handset software also run the Divitas Description Protocol (DDP), which communicates the WLAN signal strength and connection quality of the external WLAN. When users move out of signal range of a Wi-Fi hot spot, DDP alerts the appliance, which places a cellular network call to the handset; this cellular call is patched into the live VoWi-Fi call, and the conversation shifts to the cellular network without being dropped, Khuller says.

In addition to voice, the Mobility Communications Platform runs an XML Web services stack, which can deliver applications to mobile devices running the Divitas client software. XML running on the client and the appliance could give access to corporate applications and data resources for mobile users with Windows CE or smartphone devices.

Divitas faces competition from much larger network, mobile and telecom vendors, as well as carriers that also are trying to solve the problem of converging desktop and mobile-phone technology. Avaya and Motorola have a product package that allows for cellular/WLAN handoffs between Avaya PBX networks and cellular carriers. Cisco also has dual-mode and cellular/Wi-Fi interoperability with Nokia handsets that can work on cellular or Cisco VoIP nets. Siemens, Lucent and Alcatel are working on gear that will let carriers offer services.

"This is going to be a huge, huge market," says Craig Mathias, principal of the Farpoint Group. "This is a whole new industry, and very much the future of wireless."

Mathias estimates there are about 25 vendors and carriers building products, "from start-ups like Divitas, to big companies like Avaya," that will converge cellular and WLAN voice technology. "Most enterprises are completely unaware that there's lots of sensitive data sitting on devices they have no control over. Big companies that have corporate secrets all over the place on unsecured cell phones have to figure out how to manage that."

The product's cost will range from $250 to $500 per user. It requires an existing WLAN and IP PBX infrastructure. ■

Profile: Divitas Networks

Location: Mountain View, Calif.

Founded: April 2005

Product: Mobility Communication Platform, an appliance that combines VoIP, security, wireless LAN switching and cellular connectivity for voice-over-WLAN-to-cellular roaming.

Key personnel: Vivek Khuller, president and CEO (formerly with Clearstone Venture Partners, Sycamore Networks and Verizon); Venkat Kalkunte, CTO (formerly with Cisco, Transmedia and Trillium).

Funding: $8 million from Clearstone Venture Partners and private investors.

ConSentry adds switching to access control

BY TIM GREENE

ConSentry is introducing a product that incorporates its network access-control hardware and software into an Ethernet switch, making it possible to enforce access policies on a port-by-port basis.

The CS4048 LANShield Switch performs all the functions of the company's previous policy appliance called Secure LAN Controller but can restrict access to individual switch ports rather than entire switches.

Both devices control access to the network, show what each user is doing, manage what resources individuals and groups can reach, and stop the spread of viruses and worms.

The new device can shut down malicious outbreaks more surgically, says Steven Olsen, infrastructure manager for the *Las Vegas Review-Journal* newspaper, who uses the Secure LAN Controller and is considering the LANShield Switch as the company upgrades its network to 10G Ethernet. If the security-monitoring gear in the switch detects behavior from a desktop that indicates a virus or worm is at work, it can shut down the port that machine is connected to without affecting other machines connected to the same switch, Olsen says.

The Secure LAN Controller sits between workgroup switches and core switches. It monitors traffic and enforces policies but cannot shut down individual switch ports. If it discovers an outbreak, it has to shut down the entire switch from which the outbreak originates. "If the controller was connected to a 72-port switch, then connectivity would be lost to all 72 computers on that switch," Olsen says.

The downside of the new LANShield Switch is that it requires replacing switches, Olsen says. An advantage of LAN Controller is that it affords access protection without requiring other infrastructure upgrades.

CS4048 LANShield Switch is expected to be available in the third quarter and cost about $15,000. It includes 44 copper and four fiber Gigabit Ethernet ports and has two optional 10Gpbs Ethernet ports. ConSentry has not set the price for the 10Gbps uplinks. ■

MessageOne adds e-mail mgmt. options

BY JOHN FONTANA

E-mail management service provider MessageOne this week is expected to add a range of hosted services that let customers outsource archiving, recovery and encryption while integrating them with their on-premise deployments of Microsoft Exchange.

The offerings extend MessageOne's Email Management Services (EMS) platform. The company also is adding an option for the Research in Motion BlackBerry to its Email Continuity service announced last year. The service ensures that e-mail flows regardless of any outages on the local e-mail environment. The original continuity service supports both Exchange and Lotus Notes/Domino, but this week's new services are targeted initially only at Exchange.

"Compared to the complexity of clustering and outside data stores, which we have for other systems, this is a very simple and inexpensive solution," says Treg Russell, CIO of Texas Medical Liability Trust in Austin. Russell is in the process of building an Exchange cluster but plans to keep his MessageOne service. "It is an additional layer of pro-

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Rootkits

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great resource for anti-virus companies and others. Without it, they'd be far behind in their understanding of rootkits."

No one with a profoundly malicious intent would post his rootkit on the site, because it would be publicly analyzed for detection purposes, Hoglund says. He concedes, however, that out of the tens of thousands of Rootkit participants, there are bound to be those whose intent is to exploit rather than learn.

Anti-virus vendor Trend Micro says the Rootkit Web site cuts both ways.

"We need those open source people," says David Perry, global director of education at Trend Micro. "They uncover things. It's a laboratory of computer science. They demand the intellectual right to discuss this."

That said, Perry notes there are a lot of hacker wannabes who would be drawn to using the Rootkit site "as one-stop shopping for them to pick up the tools."

Designing a rootkit is a complex programming process. Hoglund says there are probably no more than 20 or 30 main types today, along with a wide number of variants.

Detecting rootkits has become a software research frontier, but eradicating them and what they hide is proving even more difficult.

"I don't think it's fair to say Root kit.com is abetting the spread of rootkits. They were present before Rootkit.com," says co-author Butler, CTO at Komoku. Komoku is getting ready to release a rootkit-detector code-named Gamma.

Butler says Rootkit.com has made it easier to use such software. "Technology being deployed today is now more sophisticated than it was two years ago. It's very advanced," he says.

"Eradication is extremely difficult to do in 100% of the cases, while restoring a system and keeping it stable," Butler says. Some rootkits that can get into the [basic input/output system] might make it advisable "to throw the computer away" if you want to be sure you got rid of the rootkit, he says.

A Microsoft official offered similar advice two weeks ago at the InfoSec Conference in Orlando (see www.nwdocfinder.com/ 3049).

Rootkits with names including HackerDefender, AFXRootkit, PWS-Progent and FURootkit are cited by McAfee as among the most prevalent today.

The trend is toward embedding stealth technologies with varying forms of spyware and malware, such as Backdoor-CEB, AdClicker-BA, W32/Feebs, Backdoor-CTV, Qoolaid, PWS-LDPinch, Opanki. worm, and W32/Sdbot.worm.

This makes it harder to detect and eradicate spyware, adware and other unwanted code, McAfee's McClure says.

The growing fear in the security world is that it won't be long before someone creates a worm that can scan networks for vulnerabilities and then effectively deliver a malicious payload — such as something that can wipe out files, change data or spy on organizations — that can be kept hidden by a well-made rootkit.

"It's quite possible, once you've got a piece of code on someone's computer," Perry says. ■

Google launches calendar service

BY ROBERT MCMILLAN, IDG NEWS SERVICE

Google has launched a Web-based calendar service that will let users add meetings and events using their own words.

In development for several months, the service initially will be integrated with Google's Gmail e-mail service, says Google's Carl Sjogereen.

He declined to say what connection the project might have with OpenOffice.org's open source alternative to Office, which Google has backed, but he hinted that Google Calendar could be integrated with things like Google's personalized home pages. "Gmail is the main integration point for now, but you can imagine integration with a number of other Google properties," he says.

Gmail will take advantage of Google Calendar's ability to understand language and create calendar entries quickly. Google Calendar users can create new events from their Gmail messages or use QuickAdd to add appointments using natural language — typing "lunch with Pat noon Friday," to create a new calendar entry, for example.

Google Calendar will let users search for and then subscribe to publicly available calendars — the schedule of a local baseball team, for example — then integrate that information into their own calendars.

Google Calendar, which will support the iCal data exchange standard, will let users share their calendars using RSS syndication technology. ■

MessageOne

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tection," he says. "If you can get one cheap and have that extra security, it is worth doing."

Russell has added the archiving and BlackBerry services to his MessageOne menu.

"The one downside with this [Continuity] service is you did not have historical e-mail," he says. "Most people work off the e-mail they had yesterday or the day before." The archiving service gives Russell that trail and lets him set a time range when e-mail is archived on a per-group or user basis.

"This is not a complete disaster-recovery solution, but it can handle 95% to 99% of your needs," he says.

MessageOne, which competes with Microsoft's Exchange Hosted Services, Postini and MessageLabs, kicks in if the local Exchange environment goes down. E-mail is funneled to the MessageOne service and replicated back to the Exchange environment when it is restored. To integrate with the service, customers need to deploy a MessageOne synchronization engine behind their firewall and install agents on Exchange servers.

With the archiving service, MessageOne has included search and retrieval capabilities similar to those of online search engines. Users can see search results returned and refined as they type keywords into the browser interface. The archive service also supports nearly 400 types of attachments and provides a one-button restore feature for users retrieving e-mail.

The recovery service lets users recover lost e-mail by entering dates and times of an outage and the users, servers and storage groups affected. The service then packages the e-mail into a recovery archive, and users can restore the e-mail to their Exchange servers using EMS Recovery Manager

The encryption service provides encryption during transport and storage, and the BlackBerry continuity service is a failover for users of the mobile device that ensures they never are without e-mail.

The MessageOne platform is priced at $6 per user per month based on 250 users. The individual services are priced from $1 to $3 and 5GB of storage is $5. ■

Hosted help for Exchange shops

MessageOne is adding features to its hosted Email Management Services platform for Microsoft Exchange.

Service	Features	Price per user, per month*
Archive	Full integration with Windows Authentication to make sure that passwords remain secure.	$3
Recovery	Restores message back to last known good backup.	$1
Encryption	Gateway-to-gateway encryption.	$1.50
BlackBerry Continuity	All traffic complies with BlackBerry 3DES encryption; no user device reconfiguration required.	$1.50

* The EMS Bundle includes the four new services plus EMS Email Continuity for $6 per user, per month.

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Rugged

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hung a scanner by its telephone-like stretch cord from the back of the small, nimble, propane-powered forklift. Each driver would take turns barreling the truck toward the wall and at the last second swerving away, jerking the scanner up and whipping it around to whack the chalk target. Each contestant was scored based on how close he came to the target.

Alistair Hamilton, Symbol's vice president of industrial design, still sounds as if he can hardly believe it. "What does this do to my 'rugged specification' for this product?" he asks rhetorically. "It's a problem that we identified as a whole new level of durability that we have to think about here."

Meet the unsung and unseen heroes of rugged computing.

Hamilton, along with William Erler of Itronix, and William Roeder of LXE, oversee their respective company's design teams that puzzle over how to make a range of products that will stand up to heavy, hard use in demanding environments.

Hamilton set out to be a mechanical engineer but found the discipline too constrained. "I wanted to look at bigger system design, and be a bit more creative and out there," he says. He switched to industrial design and landed at Symbol eight years ago.

His comment expresses an intellectual restlessness that seems common to all three men, in a field that could be called extreme engineering. Itronix's Erler, for example, is an avid rock climber when he gets away from his workstation. Now senior design manager for mechanical engineering, Erler, 50, got his start as a component designer for circuit boards. "We're putting as much equipment into a small package as possible," he says. "I liken it to a puzzle."

Roeder, 52, vice president of product development at LXE, joined the company 19 years ago to manage the engineering department. "We needed a new handheld terminal kind of badly," he recalls. Rugged design has offered challenges ever since.

'Beat to hell'

All the challenges spring from one irreducible fact.

"The biggest problem is it gets beat to hell," LXE's Roeder says.

Rugged computers are subjected to rain, grease, freezing cold, baking heat, vibration, crashes, drops, wear, and a thousand other stresses not suffered by standard PCs in a carpeted office.

Total 2004 U.S. sales for rugged mobile computers was $1.9 billion and is expected to reach $2.2 billion in 2006, according to Venture Development Corp. (VDC), a market research firm.

VDC analyst David Krebs estimates that dollar sales of rugged laptops and tablets are about 1/30th of their non-rugged counterparts. Main markets include the military, manufacturing, logistics, warehousing, field service, public safety, retail and now healthcare.

And they're moving into the mainstream. Itronix last year introduced its first semirugged laptop, the VR-1, including a model licensed with General Motor's Hummer brand name. Included are durable features such as a magnesium alloy case (magnesium being the metal of choice among rugged designers), stainless-steel hinges and a shock-mounted 80GB hard drive.

Panasonic's ToughBook division last year launched the first TV ad campaign aimed at a general mobile audience. The ads show a laptop slipping from a briefcase and shattering into hundreds of pieces, and keyboards soaking up spilled lattes like sponges. ToughBooks are shown enduring these indignities.

A blend of art and science

Designing computers to endure great punishment is a blend of art and science.

Symbol's design team includes industrial designers, mechanical engineers, human-factors specialists and what Symbol's Hamilton calls anthropologists, though most of them have psychology degrees. They study, in effect, the tribal behavior of rugged computing customers.

"It's really about observation," Hamilton says. Symbol's researchers saw users tying string to the underside of the MC9000 handheld to carry it like a lunch pail. Designers added hooks and a strap to the device.

"It's all about trade-offs," Roeder says. "You struggle with conflicting goals."

Rugged computers have to be easy to use in harsh conditions. Here, a user wearing gloves uses a LXE MX5 Windows computer and scanner to read bar codes in a freezer.

Sealing secrets

The conflicts are manifest in sealing a computer against liquids and dust. "People don't realize how many openings there are in a typical laptop," Itronix's Erler says.

Sealing usually combines various technologies and is a big determinant of the computer's overall structure. Designers rely on intricate combinations of grooves and grips, different plastics and various sizes of 'O' rings or other rubber or rubberlike gaskets.

But if you seal the computer, how do you dissipate the heat generated by its internal electronics, especially the increasingly powerful CPU? Itronix engineers created a way to conduct heat from the inside to the outside, Erler says. Instead of using aluminum heat sinks, which are essentially ridged structures that conduct heat, Itronix uses a web of tiny copper pipes that carry the heat far more efficiently and almost instantly to a set of magnesium fins outside the sealed surface.

The science of drops

The seals, like everything else on a rugged computer, have to withstand repeated drops and constant vibration, two very different forms of stress. The weakest points in a laptop are the display and the hard drive.

As a dropped computer falls, it accelerates. When it hits the floor, it decelerates abruptly, but because of momentum, the interior components want to keep going. Standard components will break and fly apart under these G-forces. "In a typical drop, you might see a couple of thousand G's moving directly into the unit," Erler says. "The typical hard drive will not survive that."

So designers create an external case, and an internal skeleton, that's as rigid as possible. Then, they cushion components such as the hard drive with a gel or foam shock mounting. But the most critical variable is leaving enough room, called sway space, inside the computer for the cushioned hard drive to move, allowing it to decelerate slowly. "You want a managed, absorbed movement inside," Hamilton says.

Symbol's MC9000 line, introduced two years ago, used a unique design to deal with shock and vibration. The housing is about 25% thicker than comparable products, the electronics are a free-floating package in a magnesium frame to absorb shock and minimize flexing. The halves fit together in a way that creates, in effect, a tube.

"It creates a phenomenally strong package," Hamilton says. "We have videos from our customers of the thing being thrown off the roof of a small building, bouncing around the parking lot, and it still scans."

Designers also focus on usability. For its GoBook laptops, Itronix engineers created the bat hook, borrowing a mountaineering term that describes a metal hook driven into a rock wall to support climbing gear. On the GoBook, the bat hook is an offset handle mounted at the rear. The user can securely hook the handle over any vertical edge, such as a steering wheel, ladder or the metal door of an electrical breaker box, creating a stable work surface.

Test it till it breaks

Testing the products is a key part of the design process, and as ingenious as the actual designs.

Itronix testers dropped GoBook laptops 52 times from a height of 3 feet, with the display closed, and with it open. It sat for four hours in an automated rain chamber, which allows the volume and rate of water fall to be calibrated. Symbol put the MC9000 in a machine resembling an oversized clothes dryer to replicate thousands of tumbles.

In other tests, the computers are strapped to machines that simulate shaking or vibration, or drops from various heights. LXE uses a device that presses a steel rod repeatedly to the display screen to test its durability.

"We test it until it fails, then we find the failure point, and tweak the design from there," Symbol's Hamilton says. ■

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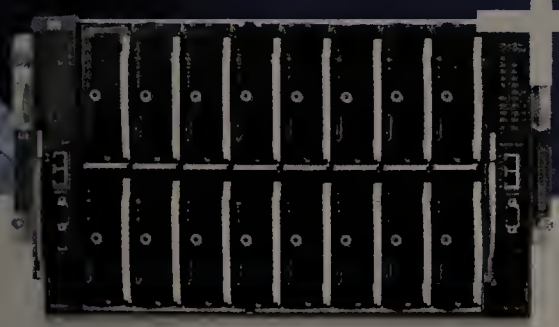

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NET INFRASTRUCTURE

Short Takes

■ **IBM** researchers have developed encryption technology that can be built directly into a microprocessor to help lock down data in mobile phones, PDAs, digital media players and other devices, the company said last week. IBM can customize the encryption technology, code-name Secure Blue, for use in consumer electronics, medical and government applications, and digital media. IBM is building the technology into its Power processor but says the technology also will work in processors from other chip makers.

■ **McAfee** has jazzed up its Web site with a new online portal designed to help users research a wide range of security problems. **The McAfee Threat Center** was launched last week as part of a redesign of the McAfee.com Web site. In addition to virus information, the portal contains new information from the company's Avert Labs division on spam, phishing and spyware, as well as free tools and articles from McAfee security experts. Security researchers have no shortage of free information sources these days. The U.S. government maintains a comprehensive information portal on security vulnerabilities at www.us-cert.gov, and security the SANS Institute runs its own community-based security information portal at www.incidents.org.

■ **Nortel** has named an IBM executive to head its Global Services division. Dietmar Wendt will be president of Global Services effective May 1. He will report to Nortel President and CEO Mike Zafirovski. Wendt will be responsible for the financial performance and portfolio development of the company's Global Services business. Zafirovski recently said that services would be one of six key areas on which Nortel will focus, noting that services and applications account for less than 20% of the company's revenue. Nortel hopes to double services revenue in the next three to five years.

Force10 scales IPS to 10G Ethernet

BY PHIL HOCHMUTH

Force10 Networks is expected to launch this week its first security product that lets customers inspect traffic and enforce intrusion-detection and intrusion-prevention system rules to traffic flows moving as fast as 10Gbps, the vendor says.

A P-Series appliance, which employs what Force10 calls a dynamic parallel inspection technique, could be deployed as a single security gateway device in front of a large data center, or in a carrier or Internet portal network, where large volumes of traffic must be screened for malicious packets and attack signatures.

The P-Series is a hardened Linux-based appliance that comes in two models: the P1, a dual-port Gigabit Ethernet version; and the P10, a box with two 10G Ethernet ports. The P-Series uses the open source Snort IDS/IPS signature inspection technology, Force10 says. It implements Snort with a combination of 10G Ethernet and programmable silicon that enable it to enforce as many as 1,000 Snort rules on traffic volumes up to 10Gbps, without impeding flows or dropping packets. Force10 says its technology, which it acquired from security start-up MetaNetworks last November, introduces one microsecond of latency in traffic.

Force10's P-Series appliance lets data center customers deploy a single, high-speed security device to screen traffic.

The Snort factor

Dynamic parallel processing uses reprogrammable chips that simultaneously apply as many as 1,000 Snort rules to incoming packets. Packet inspection and rules are processed in parallel, as opposed to serially, which allows for low latency, Force10 says. If threat signatures are detected, the device can drop the packets, redirect the flows, or handle the incident in a number of other ways allowed in Snort.

"We're not doing anything new with Snort," says Steve Garrison, vice president of marketing for Force10. "What we're doing is Snort with high speed and low latency, so you can put Snort in your data center or core."

Force10 says the appliance could be deployed between two core 10G Ethernet switches inside a data center, or on the ingress/egress point of a data center. The edge of a high-capacity WAN — such as an Intern2 research facility or carrier network, also could use the device to inspect all incoming and outgoing traffic.

The 10G P10 appliance costs $95,000 and the 1Gbps box costs $38,000. These products compete with IDS/IPS gear from Radware, Cisco, 3Com's TippingPoint prod-

See Force10, page 20

Siemens software protects WLANs

BY JOHN COX

Siemens is set to unveil this week wireless LAN management software that includes intrusion detection and prevention.

The HiPath Wireless Manager Advanced (HWMA) application lets administrators monitor and analyze traffic passing over a wireless link, and block or break suspicious wireless connections. Algorithms identify specific types of wireless attacks and suspicious traffic.

The new server program, with companion agents that run on Siemens' HiPath access points, is based on software licensed from AirTight Networks, which introduced its SpectraGuard Enterprise WLAN intrusion detection/prevention software in late 2004. Siemens has taken this software and made it the native management package for its HiPath WLAN controllers and thin access points, which it acquired a year ago when it bought Chantry Networks.

WLAN vendors have been supporting the IEEE 802.11i, but 11i focuses on encrypting data and authenticating users. Wireless intrusions, such as a rogue access point masquerading as a lawful enterprise node, aren't addressed by these standards.

A group of vendors, including AirTight, AirDefense and AirMagnet (sometimes dubbed the Air Brothers), have created software that monitors and analyzes the packets being sent over the radio link.

Siemens software costs between $1,500 and $7,500. A license is required for each access point, at a cost of $338.

The HiPath controllers are sold with a basic management application that lets each controller manage the access points attached to it, and see rogue radios.

With the new HiPath software, administrators not only can detect such intrusions but also block them, says Luc Roy, vice president of product planning for the HiPath group.

The software includes algorithms to pinpoint the location of any radio to a 20-foot-diameter circle.

"That's more accurate than what the government requires for E911," Roy says. Using a documented API, customers and third-party software vendors can access this location data and use it in other applications.

The software collects a range of performance data from the access points and displays the results on a series of WLAN maps, showing such things as rate speeds of each radio link, and the coverage footprint of each access point.

The radio frequency monitoring also makes remote troubleshooting easier. Users only know they can't connect to the WLAN, but a HiPath administrator can run a packet trace, identify the client's media access control address, and see the user is trying to connect to a access point using the Service Set Identifier "visitors" when the correct name is "visitor."

HiPath access points can be dedicated to act as packet sniffers, continuously monitoring radio frequencies. Alternatively, access points can periodically switch from handling WLAN traffic to monitoring. Dedicated sensors are more likely to be needed if the WLAN is handling voice or video traffic, according to Roy. ■

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TOLLY ON TECHNOLOGY

Kevin Tolly

Apple's Boot Camp: A step backward

"Now this is not the end. It is not even the beginning of the end. But it is, perhaps, the end of the beginning."
— Winston Churchill, November 1942.

OK, I'll grant that I'm probably overreacting, but this quote came to mind as I witnessed the excessive (even for a Mac fan) media coverage that followed the recent announcement of Apple's Boot Camp.

After Microsoft's two-decade stranglehold on the desktop and server computing market, this initiative seems likely to pry some people loose from the company's grip and maybe start a trend. (More than one writer has already described it in terms of war — Apple's Trojan horse.)

Think about it: Apple announces a dual-boot utility, and it makes the homepage of Foxnews.com, the front page of *The New York Times*, the cover page of *The Wall Street Journal's* technology section and its own segment on CNN's morning show. All this for a boot utility.

The significance of what this enables is what the fuss is all about — except that, in one way at least, it is a step backward.

With Boot Camp, a user can create a separate partition on an Intel-based Apple computer and boot Windows running native — and alone — on the Apple hardware just as he would on an existing Dell or HP machine.

To the world at large, this was momentous because it would provide a migration path and a safety net for users who wanted to move to Mac but needed a way to get back to Windows should the need arise.

As I've written previously (see www.nwdocfinder.com/3036), I was in that category a year ago when I made the switch. The answer then was to install Microsoft's Virtual PC for Mac software and boot up Windows under Apple OS X.

While it was a bit complicated, it did have the benefit of being able to run at the same time as OS X. With Boot Camp, one system has to be shut down to bring up the other. This is not very desirable, because you lose track of whatever files and windows were open.

Boot Camp is likely to be a safety blanket more than anything else. When I moved to Mac I loaded Virtual PC on Day 1 to make sure that I would be able to deal with any forced Microsoft issues. As it turns out I haven't booted it up in months. I think many users won't find the need to boot up Windows.

On the few occasions when I have no recourse but to use Windows-only software — usually a Microsoft Access requirement — I use Citrix to provide the Windows environment for me. With broadband at home and even in the airports, the user experience is certainly adequate.

And did I mention that Boot Camp is unsupported by Apple? Microsoft hasn't decided whether or not it will offer support for Windows running on Apple hardware.

Ten years ago, Steve Jobs was quoted in *Wired* magazine: "The desktop computer industry is dead. Innovation has virtually ceased. . . . The desktop market has entered the dark ages, and it's going to be in the dark ages for the next 10 years." Time's up.

Tolly is president of The Tolly Group, a strategic consulting and independent testing company in Boca Raton, Fla. He can be reached at ktolly@tolly.com.

Packeteer bolsters WAN acceleration appliances

BY TIM GREENE

Packeteer is blending the functions of two of its WAN-acceleration devices into a single box, making it possible for users to address network problems that may be slowing site-to-site performance without adding new hardware.

The company is upgrading software for its PacketShaper WAN optimization platforms so customers can buy TCP acceleration and Web acceleration as software options. These features had been available only through a separate Packeteer device called SkyX Accelerator.

When customers buy new PacketShaper software or upgrade to Version 8.0, they will have the option to buy a license to turn on the TCP and HTTP acceleration, known as Xpress TCP and Xpress HTTP.

PacketShaper devices are deployed at both ends of WAN links and use a variety of techniques to move data across the connections more efficiently to reduce congestion and improve application response times. Packeteer competes against other WAN acceleration vendors, including F5 Networks, Juniper, Orbital Data and Riverbed.

Each uses a mix of technologies such as QoS, compression, caching and protocol optimization, to speed traffic across WANs without having to buy more bandwidth, says Mattias Machowinski, an analyst with Infonetics. "They all do slightly different things," he says.

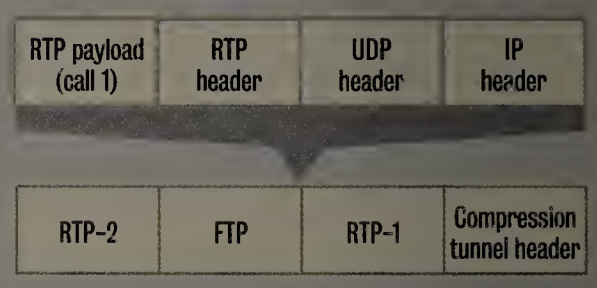
Xpress TCP software monitors congestion on WAN connections and lets TCP transmissions slow down when congestion warrants it. The software recognizes when the congestion clears and sends acknowledgements locally to ramp TCP back up to full speed more quickly.

Xpress HTTP software anticipates what content will be requested next from remote clients and precodes it so the object is ready to go or already sent when the request comes, improving response time of Web applications. This feature also accelerates XML over TCP, Packeteer says.

Packed packets

Packeteer's new PacketShaper software compresses the headers of real-time packets and bundles them into single larger packets so they cross a WAN wire more efficiently.

1. PacketShaper compresses the Real-time Protocol (RTP), User Datagram Protocol (UDP) and IP headers for an already compressed VoIP payload.
2. The fully compressed packet is made part of the payload of a super-packet in a compression tunnel between two PacketShaper devices.



These two acceleration features are options, because they are important when networks suffer high latency and high packet loss, but are not always necessary, Packeteer says.

Also new with Version 8.0 is the ability to monitor Real-time Protocol (RTP) traffic, which includes voice and video, giving businesses the ability to verify service-level agreements. The software can measure delay, packet loss and jitter as they affect RTP traffic, and measure performance of real-time classes of MPLS service.

To help improve voice and video quality by making packets cross WAN pipes more efficiently, the new software compresses RTP, User Datagram Protocol (UDP) and IP headers on voice and video packets, and packs them into single, super packets so it takes fewer bits to get payloads delivered (see graphic).

PacketShaper 8.0 ships with new devices and is an upgrade for current customers with service contracts. The acceleration module that includes Xpress TCP and Xpress HTML ranges from $250 to $10,000, depending on which model of PacketShaper it is licensed for. ■

WIDE-AREA NETWORKING

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Force10

continued from page 19

uct line, TopLayer, ISS and eEye.

The launch of Force10's security box also comes amid rumors that the vendor is on the verge of filing for an initial public offering. Force10 would not comment on any IPO plans, but observers say the company last year started putting language "regarding forward-looking statements" at the beginning of its press and analyst product presentation materials — language usually used by publicly traded companies.

Force10, which was founded in 1999, has since received more than $300 million in funding, and claims to have more than 225 customers and 350 employees. ■

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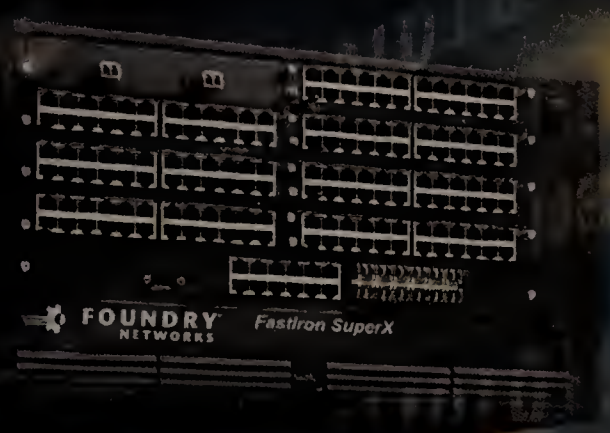

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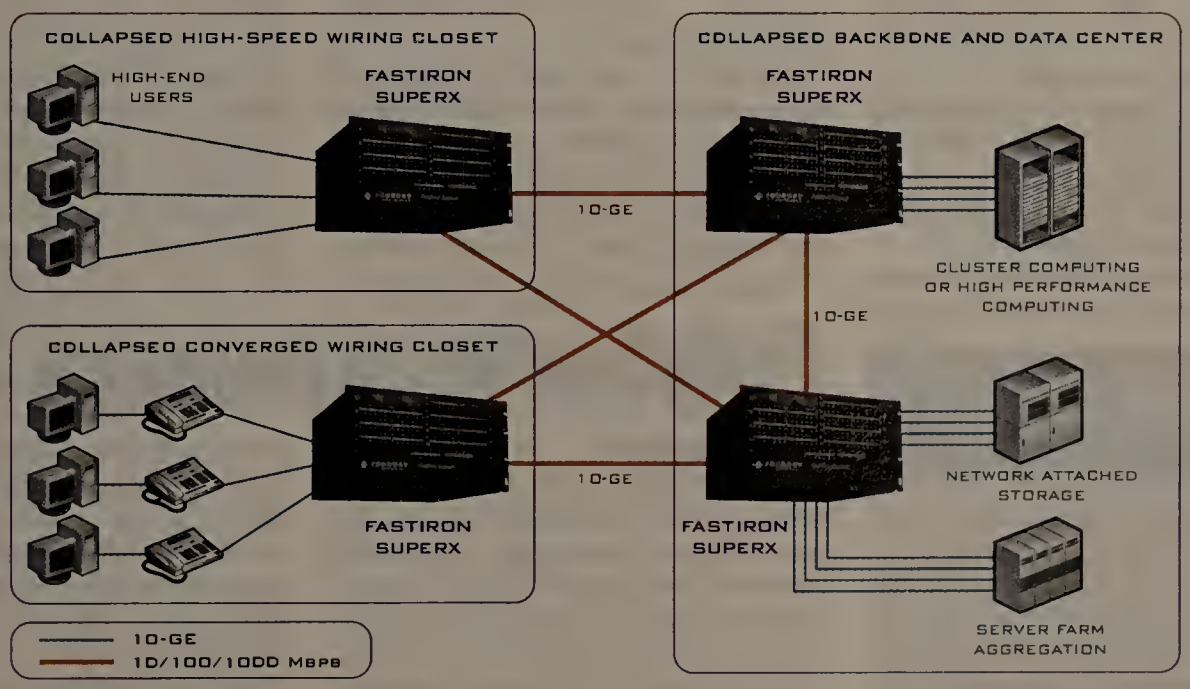

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ENTERPRISE COMPUTING

Disaster recovery high on SAN user's list

BY DENI CONNOR

When Michael Amble's storage-area network is down, it costs the financial-services firm he works for $4 million per hour.

Fidelity National Financial in Jacksonville, Fla., which handles a third of the real estate title insurance issued nationwide, put in a highly available SAN and disaster-recovery (DR) system that ensures the integrity and availability of its business-critical data at a cost of $25 million.

"We believe that if we have an outage today, we could lose up to two minutes of data," Amble says. "That concern justified the expense of putting the SAN in. Outages are just disastrous for us."

In 2004, Amble set out to replace an aging EMC SAN that needed to be managed with a variety of software.

"We were working with [EMC], and when we put this infrastructure together we were looking to have an infrastructure available that we could manage and operate with one set of tools," Amble says. The company chose to centralize all its data on a SAN from Hitachi Data Systems.

"Management just kept saying, 'What if [centralization] doesn't work,'" Amble says. "I said we'd be out of business, and they said, 'We can't let that happen.'"

Amble's SAN consists of two Hitachi TagmaStore Universal Storage Platform USP1100 arrays, in Chicago and Little Rock, Ark. Each attaches to external secondary storage, the Hitachi Thunder 9585V.

The data on the virtualized TagmaStore/Thunder arrays is replicated and mirrored over an OC-3 link between the two sites synchronously using Oracle DataGuard and Hitachi's TrueCopy replication software. Amble and his staff can manage the information remotely using Hitachi's HiCommand software.

"We have a completely mirrored system," Amble says. "Our problem is that we needed high availability at our central site so we have redundancy there, with the premise that something truly catastrophic has to happen before I'm going to move to a [disaster-recovery] site," Amble says.

Tier 1 of Amble's infrastructure is the TagmaStore storage. Tier 2 consists of the Thunder 9585Vs. Tier 3 is configured as streaming tape backups. Amble mirrors storage from Tier 1 to Tier 2 and then streams it off to tape through silos and sends the tapes off to his disaster-recovery sites.

When the disaster-recovery site isn't in use, Amble doesn't let it sit dormant.

"We utilize a huge amount of space and all the equipment," he says. "We test the DR site regularly and use it for volume and stress testing. Because of the way data is striped on our disks, we just have to move it out of one site, and when we are finished we move it right back."

Amble says most of the time spent bringing up the DR site is used to coordinate the DNS so the network can find it.

At the same time as he is replicating data from Chicago, tapes are being shipped to Little Rock. "If something should happen to the replication, we are just that far away from having the most current set of tapes available," he says.

Using Hitachi's built-in virtualization capability, he migrates data from array to array, where it can be put to the best use.

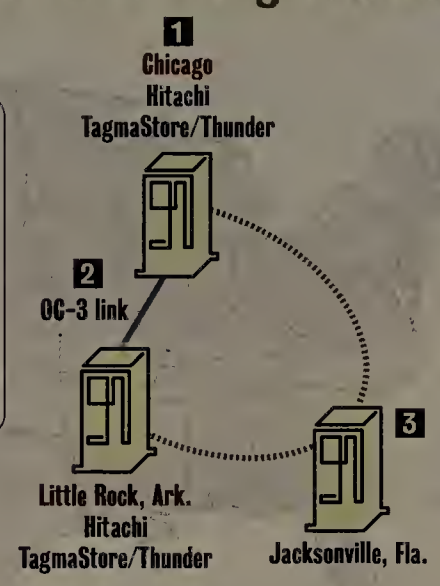
Because as much as 85% of the company's business is transacted in the last five days of every month, "we have this system that has to be sized for the volume of closings in those days," he says. "Twenty-five days of the month they don't look like they are running very hard at all, and then five days of the month they are running at 120%."

Moving data is imperative for Amble. "We move data from our Tier 1 to Tier 2 pretty regularly to ensure we can get the response we need," he says. "We use the intelligent controller in the TagmaStore to do that migration."

Amble says that with the EMC arrays, that space was set and the only way he could reallocate it was to wipe off the disk and rewrite it. ■

Fidelity's 'disasterproof' virtualized storage environment

1. Virtualized Hitachi TagmaStore/Thunder array in Chicago replicates data to disaster-recovery site in Little Rock.
2. Data is migrated from TagmaStore to Thunder array based on needs of business for processing power, inexpensive storage.
3. Management via Hitachi's HiCommand software from Jacksonville, Fla.



Short Takes

■ **Exabyte** introduced last week a tape library for small and midsize businesses and remote offices. The Magnum 224 is a Linear Tape Open Ultrim library that scales to 19.2TB of capacity. Starting with 4.8-TB capacity and speeds of 172G bytes/hour, the Magnum 224 is available with either a single LTO-2 half-height drive and an empty slot for a second LTO-2 drive, or with a single LTO-3 drive. The Magnum 224 LTO Tape Library is available from resellers starting at $4,600.

PolyServe squeezes SQL Servers

BY JOHN FONTANA

To improve failover and reduce costs, PolyServe plans to release software this week designed to help companies consolidate their growing legions of SQL Servers.

The company's SQL Server utility uses PolyServe's shared-data clustering technology and lets users consolidate their SQL Server instances and reduce the amount of Microsoft software they must buy and maintain. The utility includes a dynamic rehosting feature that lets users shift workloads almost instantly, a high-availability service that allows an instance of SQL Server to run among a group of servers, and a maintenance tool for sending updates and patches to multiple instances.

While SQL Server has grown in popularity so has the size of deployments as users build in fault tolerance by limiting instances of SQL Server to a single server and underusing that server's capacity to protect against traffic spikes. Such a configuration can inflate licensing and maintenance costs.

"We now have 14 active servers in our clusters backed up by two passive servers," says David Miller, a director for system integrator Avanade and leader of a consolidation project for a large British government agency, which he asked not be named. "In the past we had 14 active and 14 passive SQL Servers in the clusters."

Miller says PolyServe doesn't require the passive nodes, but he maintains them as extra protection. He says the agency had more than 1,000 SQL Servers running within the previous clustered environment.

Miller says he has reduced failover time from five minutes to 30 seconds and slashed by 90% the number of users who lose connections during a failover.

PolyServe Database Utility for SQL Server is built on the company's Matrix Server. The server lets users group a collection of servers and a collection of storage, and provides a storage virtualization layer on a cluster that lets any of the servers read and write to any data on the storage-area network.

The Database Utility for SQL Server is priced at $25,000 per server with a typical installation carrying a price tag of $100,000. ■

APPLICATION SERVICES

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Short Takes

■ E-mail security vendor **AppRiver** last week launched a **Microsoft Exchange 2003** hosting service that includes AppRiver's Web-based Shoreline control panel for setup and management, and SecureTide spam and virus protection. Shoreline also is the interface to administrative controls for adding users, storage quotas, distribution groups, e-mail routing, domain aliases, forwarding, passwords, client configuration and other functions. An Outlook client-configuration wizard moves users from their previous e-mail environment to AppRiver's hosted platform. The company is targeting corporate, government and educational customers. The hosted Exchange service is priced at $12.95 per user, per month.

■ **Business Objects** jumped into the world of subscription-based, on-demand software last week, announcing an online version of its **Crystal Reports** service, which lets customers share business information over the Web. The service is aimed at small and midsize businesses, which will be able to broaden their use of Crystal Reports without buying extra software licenses or assigning additional IT staff to maintain it, Business Objects says. Called Crystalreports.com, the service lets employees create Crystal Reports documents, upload them to the Web and create a list of employees, customers and partners authorized to access them. Authorized users then log on to Crystalreports.com to view the documents. Until now, many companies have shared Crystal Reports by sending them as e-mail attachments or hard copies, which takes more time, is less secure and can lead to conflicting data, Business Objects said. The service is offered in two versions: a free, basic service and a premium service, paid by monthly subscription. Both services will be offered globally in the second half of this year. Pricing has not been announced.

IP address mgmt. gets serious

BY DENISE DUBIE

When the *Atlanta Journal-Constitution* needed to share stories, photos and other editorial content with 15 sister publications in the Cox Newspaper family, network engineer Layne Meier didn't look into updated WAN technologies, but worked with the other Cox Newspaper papers to make sure all were integrated into an existing IP address management system.

"Cox Newspapers has a WAN wherein all newspapers within the organization can share stories and photos with each other," Meier says. "We had an instance where Cox Corporate had upgraded its DNS servers to [Berkeley Internet Name Domain 8], and several papers were still running BIND 4 or Novell Netware BIND that was incompatible with the newer features found in BIND 8, so some sites couldn't access the content without a lot of hassle and delay, which just doesn't fly in the newspaper business."

By installing MetaInfo's IP address-management software on one server and using another server for DNS and DHCP software, he says he not only better secured remote locations but also made it possible for multiple sites to share content more easily. While local administrators manage the DNS and DHCP servers, staffers at other sites can pluck content from them, because the systems now align and the IP addresses sync up. And Meier gets the 50,000-foot view of all the locations via his MetaInfo interface.

"Every device needs an IP address in order to communicate, and you have to manage those efficiently to keep network services available," he says.

In fact, IP address management — long an IT task pushed to the back burner and typically performed disparately with free tools — is getting more attention at companies looking to better secure and manage their networks. For instance, DNS is the network function that translates domain names such as www.networkworld.com into an IP address like 65.214.57.165. If DNS doesn't work properly, a user won't gain access to the Web site, and that would become a perceived network failure.

Vendors such as Blue Cat Networks, Cisco, eTelemetry, Infoblox, INS, Lucent, MetaInfo and Nortel offer products that promise to help customers maintain an inventory of the IP addresses in their network, virtual LANs (VLAN) and more. Using software installed on a server or bundled on an appliance, IP address-management products are designed to keep an up-to-date inventory of network addresses in use.

Some products simply serve as a repository for data that must be updated manually by network engineers, while other products are said to dynamically discover new devices, collect IP address information from them and make sure there is no duplication.

Products today also typically use BIND 9, a more secure version of the protocol that includes features to prevent security issues, such as DNS cache poisoning or viruses, from bringing down enterprise DNS and DHCP servers.

"It's an absolutely scary proposition that many folks in IT that would never think of using Microsoft Access [software for data sharing and collaboration included with the company's office suite of applications] as an enterprise database are using the ver-

See IP address, page 25

Mimosa looks to ease Exchange upgrades

BY JOHN FONTANA

Mimosa Systems released last week software that lets users archive all their Exchange 5.5 e-mail data and start fresh with new mailboxes on a more recent version of Microsoft's e-mail server.

With an upgrade to NearPoint for Microsoft Exchange Server, Mimosa has added Exchange 5.5 migration capabilities. The software lets users move e-mail, attachments, calendar contacts and other data to the NearPoint archiving system. Users are left with empty Exchange mailboxes, which are more easily migrated to a new version of Exchange, most likely Exchange 2003. Users start with a blank in-box but have full access to their Exchange 5.5 data via the NearPoint server.

Exchange 5.5 reached its end of life three months ago after numerous extensions. Nearly 15% of all Exchange users, however, are still running Version 5.5, which first shipped in February 1998. Since then, Exchange 2000 and 2003 have been released, and Exchange 12 is due next year.

"One of the reasons some users are still on 5.5 is because they have very complex environments, and it is difficult to move in the traditional way of migrating mailboxes and upgrading to Active Directory," says Masha Khmartseva, a senior analyst with the Radicati Group. She says users don't have a choice in Active Directory migrations, but Mimosa is now offering an alternative to moving mailboxes stuffed with data since 1998.

"Moving this data is very complicated; it takes a lot of time and a lot of manpower. For some companies it takes months for them to do that correctly," Khmartseva says. NearPoint presents an option that could be cheaper, faster, more efficient and more secure, she says. "Right now any company can benefit from archiving, and the faster they do it the better," she says.

Mimosa officials say the Exchange 5.5 capabilities mean users now migrate in days rather than weeks or months. NearPoint's Version 5.5 migration capabilities, which don't require installing software on the Exchange Server or the Outlook client, include tools to verify that all Exchange 5.5 data was saved to the archive before clearing out user mailboxes.

Once the mailboxes are transferred to the new Exchange platform, users see a Folder Homepage as part of their folder tree in Outlook. The archive of the Version 5.5 data is displayed as a Web page to eliminate the need to install any Mimosa software on the desktop.

Administrators fine-tune the rights that dictate what Version 5.5 information users replicate, down to their new in-boxes. It includes controls that will keep attachments in the archive while letting the e-mail text be replicated to the Outlook in-box. Mimosa allows for a desktop cache, which supports offline access to those attachments.

NearPoint is similar to XOsoft's Enterprise Rewinder software for Microsoft Exchange, SQL Server and Oracle. Pricing for NearPoint starts at $10,000 for 100 users. ■

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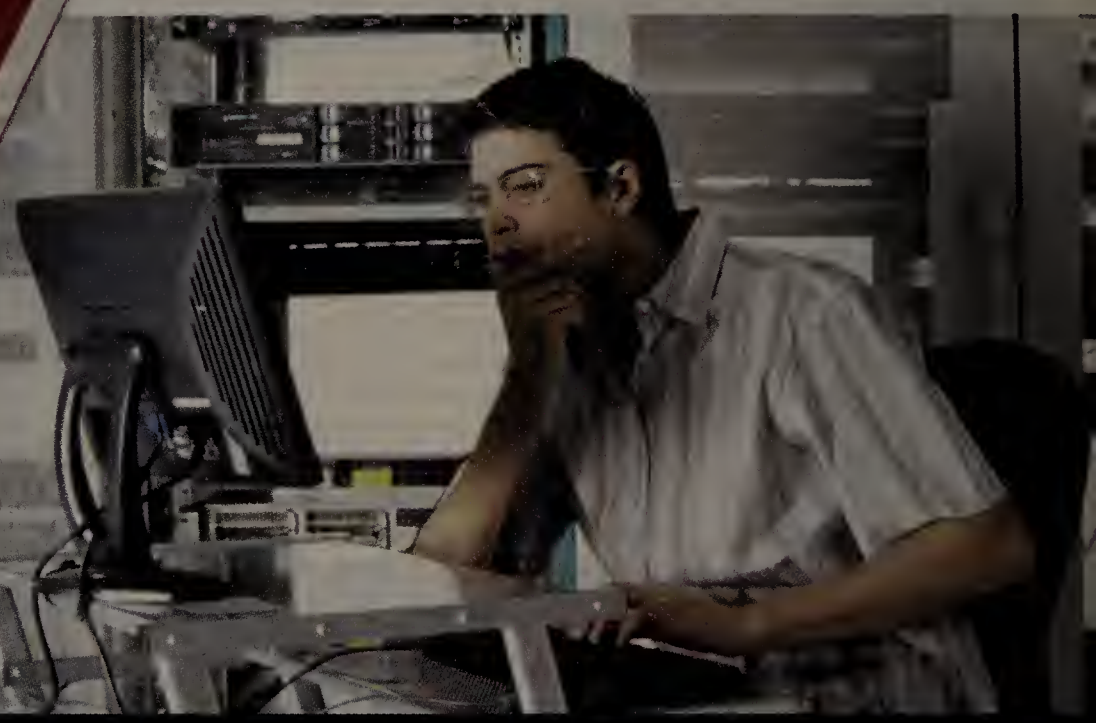

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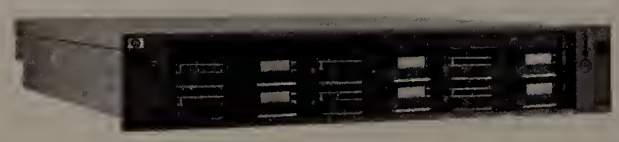

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Will there ever be a corporate Apple?

NET INSIDER
Scott Bradner

As regular readers know, I'm a fan of Apple computers and use them at home, on the road and at work. As anyone in the corporate world knows, I'm at best one of those exceptions that prove the rule that Microsoft owns the corporate desktop.

Since Apple's announcement that it was adopting Intel processors, there has been a growing buzz among some pundits that Apple might be on the cusp of a major increase in its penetration of the corporate world. This buzz increased dramatically in volume with Apple's announcement of a supported way to boot Windows on its Intel-based computers. But does this buzz make any sense?

I've been using Macintosh computers since about three months before they were announced in the famous 1984 Super Bowl commercial (www.nwdocfinder.com/3028), which has been credited with making the Super Bowl show something that even non-football fans want to watch. I got an early machine, because I was one of the Harvard representatives to the Apple University Consortium. For most of the next decade Apple had a significant presence in the corporate world but, because of many significant missteps by Apple coupled with almost-perfect execution by Microsoft (until the courts got in the way), that presence has shrunk to almost nothing.

Although I've been seeing a lot more Apple laptops on airplanes and at meetings — they are easy to spot with their luminous Apple logo — the percentages are still small. I expect to see a lot more glowing Apples, assuming the London court does not tell the company its logo — a monochromatic apple with a bite out of it — is too similar to that of Apple Corps and forces a change.

Now, however, I will not be able to tell if the user is running an Apple operating system or Windows. Apple's Boot Camp (www.nwdocfinder.com/3029) allows an Intel-based Apple computer to run Windows natively and just as fast as a machine designed with only Windows in mind. This is a good move by Apple, but not the best move it could have made. Boot Camp means that a corporate user could buy the Apple hardware that many people consider some of the best in the industry yet run the corporate Windows-standard environment. But the Apple OS X environment will always be just a reboot away and thus easy to try out.

I'd rather virtualize than reboot. I've been using Virtual PC (www.nwdocfinder.com/3030) when I need to run a program that works only on Windows. It creates a window in which Windows runs, and files can be copied back and forth. Virtual PC is quite slow, because it emulates the x86 processor; the same function on an Intel-based Apple computer should run at full speed. Other companies have announced virtualization software for the Apple machines, including Parallels (www.parallels.com) and EMC's VMware (www.vmware.com).

The ideal, but not easy, solution is to work as Apple Classic does: let individual applications run transparently in a local Windows environment if there is no Mac version with OS X starting up a virtual Windows environment when the user clicks on the application. With this support of the corporate Windows standard, companies could let users choose Macs. But do not hold your breath. Far too many corporate IT groups are focused on doing their job efficiently, not making things good for their users. Thus, I'm resigned to seeing Apple as an also-ran in the corporate world.

Disclaimer: Harvard is one of those corporations where Apples are run by exception rather than rule, but the above prediction was not checked with the Harvard IT folks, so it is mine alone.

Bradner is a consultant with Harvard University's University Information Systems. He can be reached at sob@sobco.com.

IP address
continued from page 23

sion of DNS and DHCP that came free with Windows," says Daniel Golding, a senior analyst with the Burton Group.

"That is not a slap at Microsoft, but the company designed the free software for small businesses, so it doesn't have the security and scalability features enterprise IT shops need when managing thousands of IP addresses," he says.

Golding says security incidents, availability problems or time-consuming manual processes have many customers looking for an easier way to manage their blocks of IP addresses. Going forward, vendors plan to roll out appliances that can handle more IP addresses across multiple platforms and operating systems, and building their wares to more quickly associate an IP address with a user. For instance, instead of getting a report saying a certain address is assigned to a device, technology from eTelemetry can report an IP address as John Doe's workstation or the edge router at a redundant data center.

"People are waking up and noticing their legacy systems are antiquated and just not keeping up with the allocation of new addresses," Golding says. "Now they want low-cost and low-maintenance products to get a handle on IP addresses."

In Meier's case, he started using MetaInfo in 1999, when Macintosh computers made it difficult for his staff to manage about half of its 2,000 IP addresses with automated processes. The free software Microsoft provided with PCs didn't support the Apple operating system, which remains popular among artists and designers, and continues to be used in many publications.

"Our Macs became an administrative nightmare, because we had to manually manage those addresses, while the PCs on the business side we could do automatically," Meier explains. "If you can't track that information automatically, you are lost in terms of how many addresses you actually have, what devices are on your network and what the users are doing with the devices — like going to inappropriate Web sites."

VoIP led Bruce Bartolf, CTO at architectural firm Gensler in San Francisco, to begin the process of rolling out more than 30 Infoblox-1200 appliances to distributed offices. Bartolf says he opted for IP address-management appliances to let his network handle DHCP and Trivial File Transfer Protocol (TFTP) in an efficient manner — without adding Windows servers at each location. In Bartolf's Avaya voice rollout, the IP phones need to identify themselves with the DHCP server as well as the call manager server, which is where TFTP comes into play. Many VoIP phones use TFTP to download configuration files.

"We already have a bunch of Windows servers out there, but I wanted to keep my telephony network as separate as possible across the WAN," he says. "InfoBlox appliances offer a simpler option."

With about 4,000 IP addresses now — and expectations that the number will at least double when the IP phones are in place — Bartolf says IP address-management tools will speed the DHCP service deployment to all locations.

"Considering the many remote locations, I didn't want to have to open up ports so the IP phones could TFTP to call managers. I wanted to take that out of the hands of the sites without remote administrators," Bartolf says.

Tracie Lang, network engineer in the Telecom Technical Support/EITS group at Rohm and Haas, says the specialty chemical company in Philadelphia outgrew the software it had and wanted to take the appliance route. She began working with INS' IPControl product about nine months ago to get some 30,000 addresses under control. Using an appliance over software, she says, enables her to train many IT staffers to manage their own parts of the network, while also keeping high-level tabs on IP addresses.

"DNS is integral to every midsize or large network; many products simply won't function without it," Lang says. "For networks, DNS is a service like electricity and the lights. It has to be there and it has to work, and no issues crop up if it is managed properly." ■

Mastering numerology

IP address management is more than just tracking a block of numbers. Here are a few challenges network managers face and how to address them.

Challenge:	Strategy:
Blocks of IP addresses often don't reflect how a network is designed. For instance, IP addresses are hierarchical — meaning they are classified according to various criteria into successive levels or layers — but don't necessarily follow the way a corporate network is put together, as blocks of addresses could be assigned out of order.	IP address-management software needs to be able to be integrated with other management systems and be able to share knowledge with other systems automatically, so IT managers can relate devices to groups of users or applications.
Early versions of Berkeley Internet Name Domain (BIND) — which includes the standard APIs for translation between domain names and Internet addresses and is intended to be linked with applications requiring name service — are not considered secure, robust or scalable.	BIND Version 9 is a major rewrite of the BIND architecture and includes support for DNS Security Extensions, which helps prevent security threats, such as cache poisoning; and IPv6, which can handle a lot more IP addresses. Customers should consider only products with BIND 9 support built in.
Usually maintaining several management tools, customers are looking for a quicker, easier way to get a handle on their IP addresses and automate some of the tasks associated with their DNS and DHCP servers.	IP address-management vendors such as Blue Cat Networks, eTelemetry, InfoBlox, INS, Lucent and MetaInfo package their software onto easy-to-install appliances that don't require network groups to use a server to host the IP address-management software or a database to maintain with the address inventory.

SPECIAL FOCUS MANAGEMENT INVESTMENTS

Investors seek network mgmt. innovation

BY CARA GARRETSON

Start-up companies looking to challenge the dominance enjoyed by expensive, complex network management suites are attracting second and third rounds of funding from venture capitalists eager to get in on the next big thing.

In particular, investors are putting money into companies with network-monitoring and -troubleshooting products that are attracting customers who want to care for their networks without the cost and dedicated staff demanded by CA's Unicenter, IBM's Tivoli and HP's OpenView — typically considered the leading products in this market.

Start-ups Cittio, Splunk and GroundWork Open Source Solutions have received a combined $35 million in the past 13 months, and a fourth company called LogLogic says it will soon announce a third round of investment, following the $13 million it received in September 2004 (see graphic). Attracting investors to companies such as these is the promise of a new generation of network management tools that may be innovative and nimble enough to eventually supplant the incumbents.

Importance of solid net management

Broadly defined, network management is a $3.5 billion market, says Benjamin Nye, managing director of venture capital with Bain Capital in Boston. As networks become more distributed physically and populated with devices, network management is more important than ever, he says.

"Think about the distributed organization today; it's the norm, not the exception," Nye says. "Whether you're big or small, if you're running a mission-critical network, look at how many different devices are resident on the network. . . . There's much more dependency that rides on that network."

In February 2005, Bain invested $12 million in Network Intelligence, which sells software that monitors and reports on network events for security and compliance purposes.

Managing the increased complexity in the network calls for a new breed of simpler, sleeker tools, some investors say.

Despite his extensive background in network management, Marc Sokol, CA's former vice president of marketing and now a partner at venture capital firm JK&B Capital in Chicago, waited six years before investing in a network-monitoring start-up.

"It's because the big guys — Unicenter, Tivoli and OpenView — commanded such market control," he says. "But today there's a large market of customers that for lots of different reasons consider the Big Three not to be options — either the license fee priced them out of the market, or the cost of implementation or the customer just didn't need all those features."

At the end of March, JK&B invested $8 million in Cittio, maker of network-monitoring and -operations software called WatchTower. In January, the firm invested $10 million in Splunk, which creates a search engine that helps troubleshoot systems by navigating through the logs they create. Sokol has taken a seat on the board of directors of both companies.

Cittio breaks out of the traditional network management mold by offering a critical management function, monitoring, that's relatively inexpensive and easily integrates with third-party products, Sokol says.

"I think there's now a need for disintegration among [network management components]," Sokol says. "Because of new service-oriented architectures and the [Asynchronous JavaScript + XML] user interface, you can get the benefits of integration without having to sell an all-in-one product."

A streamlined approach

While Cittio and other companies offer more streamlined approaches to network monitoring, enterprises are usually hesitant to bet on products from start-ups, especially for a task as crucial as keeping the network running.

"That's always going to be the challenge" for start-ups, says James Governor, principal analyst with RedMonk. To get around this hurdle, start-ups need to partner with bigger vendors that can introduce them to customers and, to some extent, vouch for them. Or, as in Cittio's case, they need to focus on one aspect of a larger market.

"Cittio has very explicitly stated they don't offer all the functions that larger vendors offer, but they're trying to define a sweet spot," Governor says.

Some organizations are willing to take their chances with products from start-ups to get the features they need at an affordable price.

The National Parks Conservation Association chose Cittio's WatchTower network-monitoring tool so the IT department can find trouble spots on the network, says Caterina Luppi, the nonprofit organization's IT director.

"We didn't have anything before, and that created a number of problems," Luppi says. "The users were being our alarm system; we were finding out something wasn't working, because there was a user complaining."

The Washington, D.C.-based organization, which has about 85 users on its network, uses IT products from a diverse group of vendors; Luppi chose Cittio's WatchTower because it gives the LAN administrator a single point from which to monitor them all.

Cittio's tool also is relatively inexpensive, an important consideration for a nonprofit group, she says. According to company officials, WatchTower is priced at between $200 and $400 per node, depending on number of nodes managed.

"The big network management suites were totally out of our budget, and I don't have the manpower to use 100% of their features," Luppi says. "That would be like buying a truck and using it as a bike."

Other network-monitoring and -troubleshooting tools from relative newcomers also are making inroads.

Splunk, which approaches network management by helping IT staff find the proverbial needle in a haystack, says 35,000 people have downloaded its search engine since it launched in August 2005. The company's Splunk Professional search software filters through all the logs and other data generated by IT systems, devices and applications so problems can be found and fixed faster, according to the company. It is priced at $2,500 for an annual license.

LogLogic also attempts to enhance network troubleshooting by capturing logs from all of a corporation's hardware and software in what it calls a log-management intelligence platform. Delivered as an appliance, LogLogic lets customers analyze, store, generate reports on data for compliance and risk mitigation, company officials say. The LogLogic Compliance Suite starts at $10,000.

Log data more relevant

While he doesn't see log management falling under the definition of network management, RedMonk's Governor says companies such as LogLogic, Splunk and others are making log data more relevant for network managers.

"Network management tends to be real time; log management is after the fact — it's more about looking at what happened and analyzing that," Governor says. "These companies are making log management more of a real-time function, and then it becomes more valuable. It's moving from being a subset of security management to more of an application-management function."

Another company, GroundWork Open Source Solutions, is positioning its IT monitoring tool as costing a fraction of what commercial products go for. GroundWork Monitor Professional, based on open source components, including Nagios, RRDTool and MySQL, gives customers a central point for monitoring applications, databases, servers and network equipment, officials say.

GroundWork Monitor Professional costs about $16,000 for an annual subscription and is installed at "hundreds of enterprises," according to company officials. ■

Money in management

Among the network-management start-ups that received second rounds of funding:

Company	Product/description	Latest funding
Cittio	WatchTower — enterprise monitoring and management software.	March 2006 — $8 million from JK&B Capital, Hummer Winblad Venture Partners.
GroundWork Open Source Solutions	GroundWork Monitor Professional — IT monitoring tool based on open source software.	March 2005 — $8.5 million from Mayfield, Canaan Partners.
LogLogic	LogLogic 3 — appliance that aggregates and stores log data.	September 2004 — $13 million from Sequoia Capital, Telesoft Partners and Worldview Technology Partners.
Splunk	Splunk — downloadable software to search logs generated by hardware and software.	January 2006 — $10 million from JK&B Capital.

SOURCE: COMPANIES

SERVICE PROVIDERS

More turning to telecom expense tools

Concern about billing scams and impact of mergers cited for heightened interest.

BY DENISE PAPPALARDO

Telecom expense-management tools and services aren't new, but more businesses than ever are finding them necessary.

Reasons include the fact that service providers continue to bill customers in error, of course, but also the ongoing concerns over industry consolidation — as well as outright scams.

"There's a lot of interest in billing tools and analytics today," says Rick Saia, research analyst for Aberdeen Group's global supply-management practice. Most companies use such tools to monitor invoices, contract terms, departmental reconciliation, service rates and payments, he says.

Aberdeen estimates that 7% to 12% of telecom service charges are in error.

"I've seen an increase in marketing and offerings of third-party expense-management services in the past 12 months," says Dan Rathbun, indirect commodity manager at Pentair in Golden Valley, Minn.

Sprint Nextel, one of Pentair's wireless service providers, brought TEM company Integrated Mobile to Pentair about a year ago. Integrated Mobile provides a suite of services including order fulfillment, configuration and bill management for a customer's end-to-end wireless service needs.

"It was a great thing for us," Rathbun says. "The benefit is not just an expense management tool, but it has the effect of placing you at a different point in the supply chain, because [Integrated Mobile] does fulfillment, rate optimization and distributed billing on a monthly basis."

Pentair, which provides water movement, treatment and storage products, uses Integrated Mobile to manage about 1,000 wireless devices and contracts.

Pentair also uses telecom bill-auditing services at certain locations for wireline voice and data services.

One big error Integrated Mobile picked up on was an order for 16 new lines that didn't come through its fulfillment system and therefore was immediately flagged as possible fraud. The charges for these lines were immediately placed in dispute.

When going with a TEM vendor, customers are told they can reduce monthly telecom costs by about 10% after initial contract rate reductions. "And yes, we've seen that," Rathbun says.

Short Takes

■ **Caspian,** a provider of multimedia traffic-management products for IP/MPLS networks, last week unveiled a Fair Use Policy Framework that is implemented in its Media Controller product line. The framework is intended to ensure fair allocation of bandwidth for multimedia traffic. Caspian says the framework will help resolve issues of equitable distribution of and access to Internet content being raised in the 'Net neutrality debate among carriers and content providers.

More looking to get biggest bang for telecom buck

A large percentage of customers are already using a variety of telecom expense management (TEM) tools and services, according to a survey of 90 enterprise users.

TEM tool	Use now	Plan to use within 12 months	Plan to use after 12 months
Invoice presentation and analysis	67%	17%	7%
Invoice contract term reconciliation	63%	15%	7%
Service usage auditing/accounting	64%	23%	5%
Service usage allocation/chargeback	55%	14%	5%
Inventory/asset management	50%	26%	13%
Spend analytics	40%	26%	15%
Service rate database	38%	23%	10%
Electronic contract management	33%	22%	13%

SOURCE: ABERDEEN GROUP; respondents could select multiple categories.

Other considerations

But saving money is only one aspect of TEM. Another is helping customers mine the vast amount of data that's included with their invoices. For one national retailer of office supply products, that data mining capability has made it possible to flag third-party billing scams.

The telecom manager, who asked that her name and company not be published, says there has been a sharp increase in third-party billing scams.

She started noticing calls that cost $20 apiece on her telecom invoices from 10 retail locations in the New York region. These calls were made to a company called Jobs Hotline, which operates much like a 900 service. The telecom manager points out that she blocks all outgoing calls to 900-like numbers, but the problem with the phone numbers going to Jobs Hotline was that they used a standard area code and exchange. She also believes the calls were never placed from the 10 stores. In fact, about eight calls were placed back-to-back from the fax numbers at each store.

You could look at the $20 charges as such a small expense it might not be worth the headache of tracking them down and getting refunds, especially when you spend about $30 million a year on telecom services nationwide, like this company does. But the problem quickly escalated as more calls were placed from these fax lines to Jobs Hotline. "It was a $1,500-per-month problem that turned into a $3,000-a-month problem in three to four months," she says. The charges also were hard to spot initially because they were funneled through a legitimate third-party billing company, she says.

TEM products from Asentinel helped the office-supply company get the charges and expenses in check. The tools allowed the company to track the fax calls and charges, which now are grouped together automatically in a separate report. This makes it easier for the company to try to get its credits.

Pentair has been in contact with the FCC, the Federal Trade Commission and the Attorney General's office about the fraud.

Another customer also has seen an increase in third-party billing problems.

"The biggest nuisance we never expected is dealing with bogus companies selling Internet advertising services," says Larry Van Etten, senior manager of Ikon Office Solutions' telecommunications services center in Malvern, Pa.

In this scam, checks for about $2 are sent to Ikon's local offices. These checks are cashed by accounts receivable staffers, who believe them to be legitimate. By cashing the checks, Ikon essentially is agreeing to pay for an Internet advertising service. The charges range from $39 to $69 per month.

"We got hit with over 300 fraudulent bills one month," he says. "Fortunately, we have Rivermine, which lets us know when we have oddball third-party charges."

Ikon, a document-management and services company, was able to eliminate the problem by blocking all third-party billing, which it manages through its Rivermine platform. Rivermine provides TEM tools for enterprises. The Internet advertising vendors are then forced to bill Ikon separately, which most of these bogus companies aren't interested in doing, he says.

Big deals a big deal

The biggest issue businesses face in the TEM arena is dealing with all of the merger-and-acquisition activity, says Michael Vollinger, enterprise mobility vice president at Telwares, which specializes in telecom procurement and contract negotiations.

"Taking behemoths in the market and crunching them together is a headache for business users," he says.

While most of these deals have closed, billing-system integration and platform elimination hasn't happened in force yet. One customer points out that all her SBC bills now include the AT&T logo, but otherwise the bills look as they did premerger.

"The first thing to fall off the wagon will be data quality," Vollinger says. "I'm not talking about degradation in the quality of the data services but from a billing perspective."

The largest carriers will be trying to

See TEM, page 30

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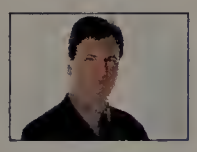

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- IPv6 Working Group for CIO Council
- Building IPv6 into the Enterprise Architecture

Friday, May 19
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Let competition bring broadband to boonies

EYE ON THE CARRIER
Johna Till Johnson

Regular readers know I'm deeply skeptical of the supposed need for a federal universal broadband policy. That said, I'm well aware there are some parts of the country that are currently underserved by broadband services.

Even in the boondocks there are options, however. One is satellite; another is municipal wireless: As most readers are aware, municipalities from Philadelphia to San Francisco are deploying free or low-cost Wi-Fi networks for their citizens to use.

It's a great idea: Let the taxpayers in those cities decide what services they want to provide — without federal interference. If citizens want to tax themselves to pay for universal broadband, more power to them. Just keep Big Brother out of it.

Unfortunately, not everyone agrees.

Readers may recall that legislators, acting under the influence of the powerful telecom and cable lobbies, have proposed legislation recently that limits or restricts municipalities' ability to bring broadband to the boonies. Last May, Rep. Pete Sessions (R-Texas) introduced a bill that bans governments from providing Internet services. In June, Florida Gov. Jeb Bush signed a similar law. Last summer Sen. John Ensign (R-Nev.) introduced the Broadband Investment and Consumer Choice Act of 2005, which limits local governments' ability to deploy public broadband systems.

But the one that really takes the cake is BellSouth's recent jaw-droppingly obscene push to shut down New Orleans' municipal Wi-Fi network — which is the only functioning communications network for large swaths of the city — on the grounds that state law prohibits municipalities from providing not-for-profit networks. No, I'm not making this up. Check out www.nwdocfinder.com/3035.

I have nothing against telcos making a profit. Capitalism is the engine that drives the economy. But competition is the fuel. A business model based on lobbying politicians to stifle competition leaves the innovation engine running on fumes — and telcos and cable companies should be ashamed to do that.

Last I checked, the way to make a profit was to provide high-quality services that customers want to pay for. Cash-strapped municipalities may be able to offer a "lowest common denominator" service — and that's great. Telcos and cable companies can benefit by offering higher-quality services; after all, if consumers were satisfied with "lowest common denominator" services, cable TV wouldn't exist.

Fortunately, Congress may be getting a clue. Responding to Ensign's bill, Senators John McCain (R-Ariz.) and Frank Lautenberg (D-N.J.) introduced the Community Broadband Act of 2005, which prohibits state laws that ban municipal networks. More recently, Congress has begun debating several telecom bills, some of which include provisions explicitly supporting municipal networks.

The bottom line? If you agree with me, write your lawmakers today — and if you disagree, let me know why you think it's better to pass laws limiting innovation than to support it. I'd be interested.

Johnson is president and senior founding partner at Nemertes Research, an independent technology research firm. She can be reached at johna@nemertes.com.

TEM
continued from page 27

crunch numbers from disparate platforms as they combine customer contracts, he says. This likely will lead to errors.

Mike Hartz, manager of telecom services for Bridgestone Firestone Diversified Product in Kings Mountain, N.C., is worried about the mergers.

"My concerns are it will impact us on the customer service or expense side, not necessarily affect our level of service," he says.

He hasn't seen any negative changes in terms of billing since Sprint and Nextel merged, but he says his experience with past mergers has raised concern.

Firestone did a lot of work with AT&T Wireless before Cingular acquired that company, Hartz says. "We had a lot of folks on AT&T phones, and we tried to move them to Cingular. They made it very difficult for us. It was easier to port a phone from Sprint to Cingular than it was to port over an AT&T [Wireless] phone to Cingular."

Still today, Cingular is more restrictive with its shared minutes because of how it bills, Hartz says. Cingular doesn't allow users based in different markets to share minutes, but Sprint does, he says.

Using a third-party TEM vendor reduces the impact of these mergers because they're responsible for contract and rate management, he says. Firestone's representative at Integrated Mobile, the TEM vendor the company uses, "gets frustrated dealing with the multiple vendors. I don't." Hartz says. ■

TECHNOLOGY UPDATE

■ AN INSIDE LOOK AT TECHNOLOGIES AND STANDARDS

802.11s extends wireless outdoors

BY JIM MURPHY AND ASHOK SARAF

Access points interconnected with peer-to-peer wireless links create a backhaul infrastructure called a wireless mesh network. These networks extend service across large geographic areas, such as campuses or metropolitan areas, facilitating expanded broadband wireless applications.

An IEEE technical group is working to develop the 802.11s standard for wireless LAN (WLAN) mesh networking. At last month's plenary session, the group announced the baseline document for the standard. The group expects to have an initial draft by July and a ratified 802.11s standard by early 2008.

The group is defining capabilities in several areas, including:

- Topology discovery.
- Path selection and forwarding.
- Channel allocation.
- Security.
- Traffic management.
- Network management.

Mesh networks introduce some new terminology. The mesh architecture defines a mesh point as a node that supports mesh services. A mesh point that supports access-point services as well as mesh services is called a mesh access point. A variant of a mesh point that connects into the wired network is called a mesh portal.

The existing 802.11 media access-control layer is being enhanced to support mesh services. Mesh networking will work with existing 802.11 radio technologies. Mesh services will be compatible with existing WLAN clients.

In a mesh network a mesh node must be able to discover its peers and associate with them. A node should also be able to select an optimal path through a mesh network to forward data frames. The standards group is working on a path-selection protocol called Hybrid Wireless Mesh. The specification is being designed in such a way that vendors can use their own protocols for path selection, so interoperable and proprietary mesh deployments will be possible.

The 802.11s group intends to take advantage of security mechanisms specified in 802.11i (completed in 2004), but extensions will be necessary, because 802.11i provides only one-hop link security, and mesh networks require multihop or end-to-end security. Additional work will define how mesh nodes can mutually authenticate themselves and create secure associations. Each node would act as a supplicant and authenticator for adjacent nodes. Distributed and centralized 802.1x authentication schemes will need to be supported. Reauthentication must occur rapidly for roaming nodes to preserve session persistence.

Engineering traffic to avoid congestion within a multihop wireless mesh network is a challenge. Local congestion on a mesh node can affect neighboring nodes using the same channel. Extensions to the QoS mechanisms defined in 802.11e are being considered to support hop-by-hop congestion control. The standards body also is looking at ways to implement rate control to alleviate congestion.

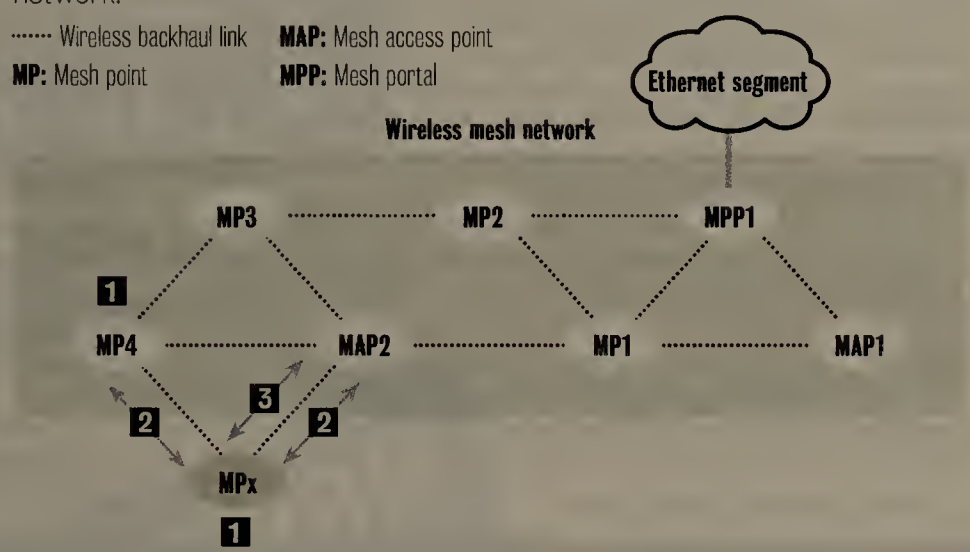
Deploying a mesh network with thousands of nodes requires a scalable and comprehensive centralized network management system. It must manage bandwidth, security and QoS policies across a network. Planning and designing a network are essential prerequisites for a successful deployment. A mesh network is dynamic in nature, with topology changes happening in real time. Monitoring of a network with rapid corrective action becomes critical to deliver performance and reliability.

Mesh networking will usher in a new paradigm to support an expanded range of wireless services and applications.

Saraf is director of product marketing and Murphy is director of software engineering for Trapeze Networks. They can be reached at jmurphy@trapezenetworks.com and asaraf@trapezenetworks.com, respectively.

HOW IT WORKS: 802.11s

The proposed 802.11s standard details how a node can join a wireless mesh network.



1. Mesh nodes advertise their profile and mesh capabilities in beacons. Mesh node MPx discovers nodes in its mesh network.
2. MPx associates with and authenticates with neighboring nodes (MAP2, MP4) in the mesh network.
3. MPx participates in selecting the optimal path for forwarding data frames.

Ask Dr. Internet

By Steve Blass

Can we deploy system images to Windows PCs with the built-in NTBackup program instead of using Symantec's Norton Ghost?

You can create a complete backup on one system and restore it to another machine with the same hardware configuration with NTBackup. The second machine will have the same machine name and network settings as the original, so you need to restart the system, rename it under the Computer Name tab in the Properties dialog under My Computer and restart again.

Ghost is not that expensive and is designed to deploy system images; however, if you go with the NTBackup approach, you need to build up your initial system image and create a full system backup, including the System State in the "What to Restore" dialog in the Restore Wizard. When you get to the "Completing the Restore Wizard" screen, click the Advanced button and accept the default setting of "Restore files to: Original Location" and click Next. On the "How to Restore" screen that follows, be sure to check the "Replace Existing Files" option rather than the default "Leave existing files" setting. After the restore operation is complete, reboot the system, rename it and reboot again.

While this approach can work, you may find that systems imaged this way exhibit some strange behavior, because files used by the system during the restore may not have been replaced. This is one reason a system-imaging utility such as Ghost is probably a better choice.

Blass, a network architect at Change@Work in Houston, can be reached at drinternet@changeatwork.com.

GEARHEAD
INSIDE THE NETWORK MACHINE
Mark Gibbs

WildPresenter is almost there

Pretty much anytime the topic of using Flash comes up in a group of techies an argument will follow. One camp usually argues that Flash is a great creative tool, remarkable information-delivery system and outstanding communications vehicle for almost 95% of Web users. The other camp considers Flash suitable only for the most egregious excesses of advertising and other commercial fripperies.

We reviewed Macromedia's Studio 8, which includes Flash 8, and are really impressed with what can be achieved, though there is a steep learning curve to get the best out of the system.

We also looked at various basic third-party tools for creating Flash content, such as banners (these are, in the main, simple programs), right through to Xcelsius, which creates remarkable Flash presentations derived from Excel spreadsheets (see www.nwdocfinder.com/3031 for our review of the previous version).

Today we have another third-party Flash-construction system that attempts to be more sophisticated than a simple banner builder and more general than Xcelsius. The product is WildPresenter Version 2.008 (www.nwdocfinder/3032) published by Wildform.

WildPresenter is designed to: record on-screen activity and convert it to a Flash presentation; edit PowerPoint presentations and templates; convert PowerPoint files to Flash; convert video content to Flash; create animated text along with animated graphics; and capture video and audio and then generate output for the Web, CD-ROMs, screensavers and e-mail.

Given that impressive range of features, it isn't surprising that WildPresenter has a serious learning curve (though nowhere near as steep as that of Flash 8).

WildPresenter provides a number of wizards to simplify such tasks as animating text and importing video as well as managing output formats (HTML, screensaver and so on).

Another option is to create a player for your Flash content. Wildform provides a large number of "skins," and you can select which controls (such as play/pause, stop and rewind) are available at run-time.

Within a few hours of getting our hands on WildPresenter, we had some pretty cool Flash movies, which included a Gearhead screensaver for Windows. (Drop us a note with "screensaver" as the subject and your screen resolution in the message and we'll send you a copy.)

We also recorded a short screen session and imported a couple of PowerPoint files. Here's where things stopped being quite so good:

The screen session drove the processor utilization to 100%, which caused a jerky mouse response while recording and marginal results. With PowerPoint files a simple presentation looked great, but a more complex one was trashed on import.

Another problem with WildPresenter is that in some places its functioning is not obvious. For example, we added a video to the timeline and set it to loop. We then added a text object also set to loop that started at frame 30 and ended at frame 90 while the video ended at frame 120.

When we ran it the video started, the text appeared and disappeared when planned, and then the video ended. But when it looped things went wrong: Instead of waiting until frame 30, the text animation started on frame 1 along with the video, and when the text object finished it started for a third time before the second run of the video had finished!

We had to get help from Wildform support (not bad; a complete and accurate answer in less than five hours). Turns out that we needed to add specific timeline objects to restart the entire timeline. Even though we had looked in the help files, this was anything but obvious.

On the other hand, we have also created a number of Flash animations that work perfectly well and are quite complicated. WildPresenter is an ambitious product and its flaws are mostly things you can work around.

Right now it is priced at $299, instead of its regular $499, and at that price the product is a reasonable investment. Despite our criticisms, we really like the product. Wait until you see the screensaver!

Flash your thoughts on Gibbsblog or drop us a line at gearhead@gibbs.com.

CoolTools

Quick takes on high-tech toys. **Keith Shaw**

Do you remember all of those employees who brought home wireless LAN equipment and then started bringing their cards and access points into the workplace? If you thought that was a mess, get ready for Wave 2 — the Wi-Fi cell phone.

At the recent CTIA Wireless 2006 show in Las Vegas, Nokia and Samsung Mobile displayed mobile phones that included a Wi-Fi radio in addition to the normal wide-area wireless radio.

These vendors weren't the first to do this, but these models were the first ones geared to a consumer audience. The earlier devices were geared to enterprise customers who want to use Wi-Fi in an IT-controlled environment, such as a college campus or warehouse, as well as integrate with existing VoIP or PBX infrastructures.

The Nokia 6136 and Samsung T709 are geared to the Best Buy/Circuit City/mall kiosk crowd. For example, the Samsung T709 lets calls channel from a Wi-Fi access point, through the Internet and onto a cellular network to give users uninterrupted connections when traveling between home and office or while on the road.

The Nokia 6136 (left) and Samsung T709 are some of the first consumer-aimed cell phones with Wi-Fi capabilities. You've been warned.

A phone that uses Wi-Fi and a cellular connection could mean trouble for network managers. Imagine this help desk query from the vice president of sales. "Yeah, I was making a cell phone call with my spankin' new cell phone, and I walked into a stairwell and the call dropped — I just lost the $100 million deal I was working on."

The vice president might not have realized that the call he was making connected via the internal Wi-Fi network instead of the regular cell network — all he knows is that the call dropped, and he may blame you.

Just like they started asking for WLANs in the workplace, users will start asking for better WLAN coverage for voice applications. I discussed this issue with the head of the Wi-Fi Alliance at the CTIA show, and he admitted that most enterprise WLANs were designed for wireless data, not wireless voice.

He suggested that the best way for a company to find out where its wireless coverage holes are is to add Wi-Fi-enabled phones to the network and have people walk around the office and wait for the calls to drop.

Last year when *Network World* tested the ability for WLAN systems (enterprise switches and access points) to handle wireless VoIP traffic, the results were dismal. We hope that when we test these systems again later this year the numbers will improve.

At any rate, the clock is ticking for you to start improving your WLAN network before other vendors come out with their Wi-Fi cell phones and you're inundated with employees pounding your WLAN with voice traffic.

For more details about new cell phones launched at CTIA, check out the Cool Tools bonus online coverage (www.nwdocfinder.com/3037), as well as our video coverage of the show, where Shaw tries to find a cool new phone to replace his 3-year-old model. Shaw can be reached at kshaw@nww.com.

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Two industry experts debate the merits of application awareness vs. application transparency.

FACE-OFF Do users need application-aware networks?

Yes

Issy Ben-Shaul, Cisco

Organizations today employ widely distributed IP networks that deliver Web-based and client/server applications worldwide. Even with ample bandwidth, application performance can slow to a snail's pace in this environment, seriously hindering a company's ability to do business.

To address this challenge, networks need to become more application-aware. That is, intelligent networks must be able to identify and understand Layer 7 application protocols to optimize or carry out application-specific messages. By identifying types of application messages, such as high-priority and latency-sensitive signaling messages, or by recognizing message content, such as a purchase order or stock trade, a network can apply message-specific optimization, security or routing policies. With greater application-aware functionality, remote offices can experience LAN-like performance, boosting employee productivity.

Application-aware networks also enable IT managers to monitor application performance constantly and optimize bandwidth and spot trouble early. This enhances application operation and the overall IT infrastructure — all without the huge expense of building out a network or reworking applications.

For example, a major insurance company began to deploy a homegrown, Web-based application that had taken more than two years to develop. The application tested well in the data center, so the company was optimistic about delivering an important claims-processing function to its many branches across North America. The deployment hit a serious snag, however, when employees tried to access the application over their WAN. Application performance slowed to a crawl, and frustrated workers began to miss their quotas. An application that was supposed to boost productivity reduced it instead, forcing a premature halt to the rollout.

Upgrading the network itself was irrelevant, as bandwidth utilization was less than 20% and upgrading would have done nothing to mitigate the latency. Alternatively, the company could have rewritten the claims application to minimize the number of traversals, but rejected this option. Instead, it chose to deploy affordable application-aware network devices that understood its Web protocol. By so doing, the network became more efficient in delivering the performance employees needed. In fact, application response time improved 2.5 times without changes to the application or user systems.

Today the extended enterprise infrastructure is expected to support the most demanding business applications efficiently and securely on a limited budget. Many options exist, but organizations are discovering that, by embedding intelligence and common functions, application-aware network products offer a more easily managed and more affordable way to deliver higher levels of performance and add greater functionality across an IT infrastructure.

Ben-Shaul is director of engineering of Cisco's Application Delivery Business Unit. He can be reached at issy@cisco.com.

No

Raghu Ranganathan, Ciena

The emerging service-oriented architecture is introducing better ways to integrate business processes, and business managers are demanding SOA-based applications. These demands for SOA must be balanced with other enterprise network initiatives such as data replication, VoIP and LAN extension. The WAN implications of these emerging applications are profound: exponential increases in traffic volume, more sensitivity to network latency, less predictable traffic patterns and increasing difficulty in identifying high-priority traffic.

In such an environment, there is value in load balancing and prioritizing application flows. Application awareness and control belongs at the edge of the LAN, however, not in core network elements. Higher-layer functions best reside on servers and ancillary equipment that are tightly bound to supported applications.

In an on-demand IT world where the performance of critical applications is becoming increasingly more strategic, building application awareness into WANs is a fundamentally flawed approach. Consider these issues:

- **The unnecessary bind.** Coupling ever-evolving applications with stable network elements doesn't make economic or operational sense. In grafting the added hardware and software necessary for application awareness onto WAN equipment, users will experience cost and performance penalties as they attempt to optimize WAN architectures based on packet inspection, which potentially increases latency and diminishes throughput for SOA and other enterprise applications.
- **Business flexibility.** Pairing network elements and applications hinders organizations from adapting quickly to their fast-changing IT needs. If applications are inextricably linked to WAN elements, IT systems and networks struggle to react swiftly and organizations lose their agility.
- **Operational complexity and cost.** Application awareness complicates an IT group's ability to ensure applications are responding to user needs. By taking on tasks traditionally supported by servers and middleware, application-aware elements add to the operational expense of a WAN.

By contrast, an application-transparent network optimizes bandwidth and switches traffic at the lowest possible layer — leveraging new, flexible optical transport and Ethernet data-switching technologies. This enables the cost-effective creation of networks that provide maximum throughput, inherent security and the lowest latency for each application. Lower-layer, application-transparent networks are very reliable, don't drop packets and deliver a deterministic response. They are scalable and ideal for high-bandwidth, time-sensitive, mission-critical business processes.

Organizations need a WAN that is simple, robust, high performing and transparent — attainable with the flexible optical and data network platforms now available

Ranganathan is technology director in the office of the CTO at Ciena. He can be reached at rraghu@ciena.com.

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Have your say

Log on to *Network World* to voice your opinion. Face-off authors Issy Ben-Shaul and Raghu Ranganathan will add their thoughts to the discussion.

www.nwdocfinder.com/3021

E-MAIL NEWSLETTER SHOWCASE: Web applications

Customers make good use of wikis to combat e-mail overload

BY MARK GIBBS

E-mail overload is a common corporate phenomenon. Someone makes a single contentious comment or a news item gets everyone fired up and suddenly your e-mail volume quadruples and you find yourself wading through scads of "me too" messages so as not to miss anything.

A somewhat surprising solution to this problem seems to be the Web-based collaboration systems called "wikis". Wikis are collaborative content management systems of which one of the most famous is Wikipedia, a public wiki-based encyclopedia.

Inside organizations, wikis are becoming more common not only because they appear to help with the e-mail overload problem — a *Business Week* story quoted investment bank Dresdner Kleinwort Wasserstein's CIO as estimating that adoption of a wiki reduced project-related e-mail by 75% and cut meeting times in half.

Socialtext, the wiki adopted by Dresdner Kleinwort Wasserstein to replace its existing intranet for 7,000 global employees, is a great example of a wiki designed for enterprise operation.

Socialtext provides the infrastructure for not only collaboration but also for blogging, integrates with e-mail and instant messaging services, provides search facilities with tagging, and includes basic content management functions. It can be customized, provides access and basic content workflow management, and uses SSL along with a comprehensive user rights management system that can be integrated with corporate Active Directory and LDAP systems.

There are three deployments of Socialtext available: Socialtext Enterprise designed for user populations of up to 50,000 is based on a dedicated appliance; Socialtext Professional, a hosted solution suitable for up to 500 people; and Socialtext Personal, available on the hosted service for up to 5 people for free.

Pricing for the Enterprise version is based on application, while the Professional version starts at $95 per month for up to 19 users.

Socialtext already makes some components available as open source (a Web editor and a wiki anti-spam subsystem) and a full version of the Socialtext wiki code with an open API is planned for later this year.

Socialtext has some impressive customer wins including Nokia, Kodak, and the previously mentioned Dresdner Kleinwort Wasserstein.

Researching the background of wiki use, including the customers of Socialtext, indicates that like all new ways to improve on existing services introducing wikis requires a carefully managed rollout and some real effort at user training and reorientation.

For example, a group of heavy e-mail users is going to be hard to migrate to a wiki without serious "re-education."

As always, the golden rule to ensure cost effective implementation of new strategic IT solutions is incremental, instrumented deployment within functional groups. Get that right and the world, or at least the wiki, is yours.

Gibbs is a columnist for the Gearhead and BackSpin columns each week. He can be reached at backspin@gibbs.com.

E-MAIL NEWSLETTER SHOWCASE: Linux

Getting the facts on Microsoft's other Linux Web site

BY PHIL HOCHMUTH

"Dogs and cats living together, mass hysteria!" — Dr. Peter Venkman in the movie "Ghost Busters".

We're not quite there yet, but some curious developments emerged last week regarding Windows, Linux and Macintosh interoperability. The big news was Apple's announcement of a dual-boot Mac/Windows XP. Then there was the launch of Microsoft's Linux/open source Web site. Yes, you read it correctly; it's not a sentence-long typo.

This site — http://port25.technet.com — announced last week at LinuxWorld, is the official portal/blog for Microsoft's open source interoperability initiatives. The site is run by Bill Hilf, who is in charge of the Linux and open source lab on the Redmond campus. Named for the protocol port for e-mail servers on the Internet, Port 25's goal is to give updates on Microsoft projects aimed at making its software compatible and interoperable with Linux and open source applications.

By now, you've probably seen Microsoft's other Linux-related Web portal (www.getthefacts.com), where the software giant aggregates all the studies, surveys, white papers and other materials that point out the lack of cost savings and complexity in moving from Windows to Linux servers.

"The great thing is that as a market we've gotten past the David and Goliath stuff," said Hilf during his LinuxWorld keynote last week, regarding Linux/Windows relations and interoperability efforts.

When Microsoft puts as much marketing muscle behind Port 25 as it does GetTheFacts, maybe that will be true. ■

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COMPANY: Lucent Technologies

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On Technology

John Dix

Virtualization: The time has come

The virtualization ember that VMware fanned into a fire is about to explode into a conflagration as major players pour on fuel. Consider these developments:

• Microsoft just started giving away Virtual Server 2005 Release 2 and has announced it will provide support under current Virtual Server contracts for Linux guest operating systems (www.nwdocfinder.com/3047). Native virtualization support will be built into Longhorn.

• Red Hat is building support for Xen 3.0 into Red Hat Enterprise Linux 5; SuSE Linux 10.0 comes with a technological preview of Xen 3; and XenSource is reading a packaged version of its virtualization technology called XenEnterprise.

• AMD and Intel are building virtualization support into processors. Hardware-assisted virtualization, Intel says, will improve performance by making the hardware handle handoffs between the virtualization layer and guest operating systems, and eliminate control conflicts by providing a "higher privilege ring for the virtual machine monitor," among other benefits. Intel Xeon-based systems with the new capabilities are expected to ship in the first half of this year and Itanium 2 in the second half.

Buyers are excited about the prospects, particularly about how virtualization will make it possible to increase server utilization and allow server consolidation. "Virtualization is huge for us," a senior vice president at a large Northeast financial institution says.

His firm is getting 9% to 14% server utilization today, and he expects virtualization will drive that to 60% to 80% in his IBM Unix environment and 50% to 60% on the VMware/Wintel side.

In a keynote address at the recent LinuxWorld conference in Boston, Dell CTO Kevin Kettler said virtualization plays an important role in his company's scalable enterprise vision. He sees customers moving to environments built on one, two and four socket systems (sockets instead of processors because sockets can be multicore). Customers will be able to pay as they grow instead of investing in monolithic systems.

Surprisingly, Kettler predicts the future of virtualization will be driven by desktop opportunities.

He anticipates a need for desktops to be able to support multiple virtual machines dedicated to different tasks. One VM, for example, might support a secure browser that, if it gets infected, can be killed off without hurting anything else, while a second might support a software stack for gaming, a third could be dedicated to media serving, etc.

"These encapsulated environments would in many ways be appliance-like in nature," he said.

Wile that may be a few years off, there is plenty to get excited about in the enterprise.

— John Dix
Editor in chief
jdix@nww.com

Opinions

Novell mind share

"Does Novell still have mind share?" (www.nwdocfinder.com/3026) rounds up the usual suspects who seem unfamiliar with what Novell has been doing since 1994. I particularly liked the guy who "recently looked at Novell for directory services and Linux" and decided to write his own metadirectory to use with Red Hat Linux. Gee, I guess Novell wasted a lot of time and money creating a distributed and replicated directory service that runs on Linux, NetWare, Solaris and Windows when someone could just sit down and hack one out on their own.

Then there is always someone who complains about Novell's marketing. I've noticed a steady stream of Novell's print ads gracing the pages of industry publications for quite some time. I can't vouch for their effectiveness, but Novell is putting out its message about how its products and services help organizations create an open enterprise.

Because everyone loves a horse race, there is now the mandatory comparison of Novell and Red Hat over which has the larger share of the Linux market. Never mind the interesting stuff, such as how well Red Hat is doing with the Netscape Directory Server vs. Novell's multiplatform eDirectory. Or how Novell has implemented Virtual Iron's extensions to the Linux kernel in SuSE Linux Enterprise Server 9 Service Pack3 and SLES10 while Red Hat Enterprise Linux (RHEL) 4 doesn't. Or how Novell will support NetWare 6.5 virtualization on SLES10 using the XENsource Hypervisor while Red Hat is slow to commit to XEN. Seems obvious to me that Novell is making solid technical improvements in SLES while Red Hat lags behind with RHEL.

Novell is scoring big wins with many customers who are smart enough to know the value Novell brings to the table. You should be talking to them to find out why they chose Novell and stop printing vapid quotes from people who care nothing about what Novell is doing.

Tim Wessels
Rindge, N.H.

Taxing teleworkers

Regarding "Bird flu: IT pros planning for worst" (www.nwdocfinder.com/3027): While telework will be an essential tool for helping businesses sustain operations in the event of a flu pandemic, the price tag that states may slap on this emergency management strategy may be exorbitant. Some states (including New York and others) may require nonresidents who sometimes telecommute to their in-state employers to pay taxes, not only on the income they earn while physically in the employer's state, but also on the income they earn at home. The double-tax risk can make telework unaffordable for many Americans and may compel them to resist remote work. In addition, the rule may saddle employers with unduly burdensome withholding obligations. Proposed federal legislation called "The Telecommuter Tax Fairness Act" would eliminate the tax penalty for interstate telework, prohibiting states from taxing income that nonresidents earn at home. If employees and employers are to prepare adequately for a pandemic, barriers to interstate telework must be removed — and fast. Congress must pass The Telecommuter Tax Fairness Act now.

Nicole Belson Goluboff
Scarsdale, N.Y.

(Goluboff is the author of The Law of Telecommuting *and* Telecommuting for Lawyers *and an advisory board member of The Telework Coalition.)*

E-mail letters to jdix@nww.com or send them to John Dix, editor in chief, Network World, 118 Turnpike Road, Southborough, MA 01772. Please include phone number and address for verification.

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TOTALLY UNPLUGGED

Ira Brodsky

Wireless and the great indoors

With mobile phone service available in more than 210 countries, blanketing most major cities, you might think rural areas are the top priority for extending wireless coverage.

You would be wrong. There is an urgent need for better wireless coverage much closer to home. In fact, it's inside the home — and all other buildings.

There are now more wireless phone subscribers worldwide than wireline phone subscribers. In developing countries, a mobile phone is often the user's first phone. In developed countries, a growing number of consumers and enterprises are making mobile phones their primary phones.

In other words, what started as a car phone for the rich is now a personal voice/data communicator for roughly one-third of the earth's inhabitants. People take their mobile phones everywhere and expect them to work everywhere — in homes, office buildings, hotels, convention centers and even subways. Outdoor cell sites, by themselves, will probably never provide adequate indoor coverage. Office buildings often contain steel, thermal windows and other materials that attenuate radio signals. Homes can be obstructed by hills and foliage. Plus, high-speed services such as streaming video and downloading games require better signals, so a building with acceptable voice coverage may exhibit unacceptable data coverage.

The network industry is responding to this challenge in different ways, and it will be interesting to see how it plays out. Companies such as ADC, Andrew Corp., Comba Telecom, Dekolink and LGC Wireless are providing coverage inside midsize to large facilities using repeaters and distributed antennas.

The Nextel side of Sprint-Nextel has been particularly aggressive in convincing enterprises to use its mobile phones indoors. Push-to-Talk and Talkgroup features make Nextel's service an especially good fit for enterprise users. The firm works with infrastructure suppliers to ensure coverage throughout a customer's premises using repeaters or micro base stations.

> . . . consumers and enterprises are making mobile phones their primary phones.

In addition, wireless LAN (WLAN) and mobile phone industries are jointly addressing the in-building challenge. WLAN makers are adding VoIP to their products while mobile phone manufacturers are adding Wi-Fi to handsets. Cellular infrastructure suppliers are developing solutions for handing calls and data sessions back and forth between mobile phone networks and WLANs.

People are not only relying more on mobile phones, some are disconnecting their wireline phones. But they have to have coverage throughout the entire home — basement included.

Ensuring mobile phone coverage inside homes is a unique challenge. WLANs are popular for sharing high-speed Internet connections in homes, making the converged approach attractive. Some vendors are developing pico base stations for homes, but these tend to be expensive. A third solution, using low-cost repeaters, can only be done in close collaboration with mobile phone operators because it's their licensed spectrum that's being reused.

People spend most of their time inside buildings. So it's no surprise consumers and enterprise users demand seamless wireless voice and data coverage indoors and outdoors. What's surprising is that it has taken this long.

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ABOVE THE CLOUD

James Kobielus

DRM will prevail, like it or not

Digital rights management is a technology with many ideological enemies. DRM got a black eye in the business-to-consumer market recently from such public relations fiascos as Sony's XCP rootkit. In that incident, the media giant inadvertently violated users' desktop security in an ill-conceived effort to enforce CD-music anti-piracy controls.

Don't let the anti-DRM hysteria fool you into thinking the technology is on the decline or that it won't be widely deployed. DRM isn't evil. It's coming on strong from many directions, with DRM vendors developing many innovative approaches — most of which don't involve rootkits. Some DRM vendors wrap access and usage policy around downloadable content, while others enforce DRM controls at access management portals or in the firmware of content streaming or playback clients.

It's only a matter of time before DRM, in various forms, plays a role in many information exchanges over the Internet and within corporate environments. It has gained significant attention in the business world as a tool for ensuring life-cycle controls on access to sensitive messages and documents. It is being used to enforce security classifications on internally distributed materials within organizations. It also is being used to keep tabs on who accesses what information and to prevent users from performing certain document functions — such as printing, copying/pasting and forwarding — forbidden by the content's owners.

EMC's recent acquisition of DRM pioneer Authentica is a significant industry development. EMC is a leader in the data storage market but also owns leading content management and collaboration product families: Documentum and eRoom, respectively. Don't be surprised to see EMC embed Authentica's DRM technology across all of its hardware and software products, thereby providing a unified policy environment for content owners to enforce life-cycle controls on user access to storage, folders, documents, messages and other content containers.

Microsoft, another powerful DRM supporter, is embedding its own technology in its products, including Windows Vista, Office and various server-based software packages.

> DRM vendors [are] developing many innovative approaches — most of which don't involve rootkits.

Software activation is another area where DRM technology is being applied widely in the corporate world. Software activation DRM tools let developers enforce a wide range of controls on distribution, installation and usage of their products.

Anyone who takes a purely ideological stand against DRM should heed the words of a software developer whose commitment to open code is unimpeachable: Linux kernel developer Linus Torvalds. In January, Torvalds went on record as opposing the anti-DRM restrictions that have been proposed for GNU General Public License Version 3 (GPLv3), which is used in many open source projects. Some had proposed that GPLv3 prevent GPL-licensed open source software from being used in DRM copy-protection software.

Torvalds — being a software developer — is also a publisher (of program code). One of a publisher's primary interests is to ensure that consumers can verify the authenticity and integrity of their published works. That depends on a crypto feature called digital signatures, which requires that content originators secure their private signing keys.

So the following statement from Torvalds, commenting on a proposed anti-DRM feature of the GPLv3 license, makes perfect sense: "I think it's insane to require people to make their private signing keys available, for example. I wouldn't do it," he wrote. "So I don't think the GPL v3 conversion is going to happen for the kernel."

Before long, we'll see the anti-DRM hysteria die down and be replaced by grudging widespread acceptance of the technology. Many open source developers will become fervent DRM supporters. They will deploy the technology to ensure that their authorship of software components is always and everywhere visible, even if they never make a dime from their work.

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CLEAR CHOICE TEST Session border controllers

SBC 'traffic cop' controls VoIP streams at the border

BY EDWIN MIER, ANTHONY MOSCO, ROBERT TARPLEY AND ROBERT SMITHERS, NETWORK WORLD LAB ALLIANCE

Is there a session border controller in your enterprise's VoIP future? If you're looking to expand your organization's VoIP reach — to VoIP-based service providers, to other enterprises or even to VoIP-interconnected distributed sites via the Internet — there very well may be.

Functionally, an SBC is a traffic cop: It facilitates and mediates VoIP flows in real time, in both directions between private VoIP domains: an enterprise and a VoIP-based service provider — the environment we tested here — or two service providers. SBCs came of age by providing peering connectivity between different carriers' VoIP services and only recently have begun penetrating enterprises.

There is no universal job description for an SBC. Certainly there has to be versatile handling of VoIP call-control protocols, such as Session Initiation Protocol (SIP) and H.323, especially amid different firewall and network address translation (NAT) configurations. And there needs to be some security safeguards — hiding the network topology of the private network, for example. But overall, SBCs are complex and costly components, coming from diverse backgrounds and offering widely varying capabilities.

We invited more than a dozen vendors who were touting new SBC wares earlier this year to submit their packages for testing in Miercom's New Jersey lab. Four accepted our challenge for this feature-based testing: Ditech Communications, Ingate Systems, Mera Systems and NexTone Communications.

Despite many differences in the feature sets of these products (see "What SBCs do," page 44), their general orientations lie in a few similar, basic areas, including VoIP call handling, QoS handling and security capabilities. Based on our assessment in these areas, our Clear Choice Test Award goes to NexTone's package, the Multiprotocol Session Controller (MSC) coupled with its iView Management System (iVMS). NexTone's dynamic VoIP session control, real-time monitoring with active error and threshold-limit notification, call-level reporting system, and integrated firewall features make it the best of the enterprise-focused SBCs we tested. We note, though, that the NexTone package costs considerably more than the competition (more than $100,000, compared with $25,000 to $38,000 for the others).

NexTone Communications

One strength of NexTone's Linux-based MSC was its exceptional management and reporting, augmented by the powerful routing engine of the optional iVMS. NexTone could be set up to adapt dynamically and to alter operational behavior involving admission control, routing priorities and bandwidth allocation, based on fluctuating network conditions and changed user or application behavior. For example, we observed how the system can be set up to divert traffic from low-cost VoIP carrier A to carrier B, if the quality measurements of calls via carrier A drop below established thresholds. Also, the parameters that users can apply for routing decisions by NexTone's MSC are broader and include, for example, user profile, time of day and desired QoS — the example cited earlier.

The iVMS allows routing and rerouting of calls among carrier services and trunks, and serves up extensive VoIP-quality reporting, including statistics on average call duration and postdial delay. We exercised the routing capabilities of this product by setting up multiple trunk groups and changing conditions to cause rerouting. One way was to unplug a gateway and see if calls would reroute if there was a viable alternate path. In another case we intentionally oversubscribed the amount of bandwidth allocated in Call Admission Control, to ensure the overflow calls would be blocked. In both cases, the NexTone product worked as advertised.

Another capability of NexTone's SBC is that it offers seamless connectivity between SIP phones and applications and H.323-based IP PBXs. This feature lets users connect their existing legacy VoIP environments — which are mostly H.323-based — to VoIP-based carrier services — which are mostly SIP-based. We tested the MSC's role in this process by placing a VoIP call between an H.323 and a SIP endpoint, and verified that it worked — connection setup and quality were good — despite the mismatch in call-control protocols.

For security, NexTone does token-based bandwidth throttling of sessions that exceed a set threshold, with stepped reinstatement. Both are sophisticated mechanisms for protecting against incorrect or unauthorized IP traffic, which could be denial-of-service (DoS) attempts. There can be multiple cycles of allowing or reinstating a suspect to see whether their intentions are legitimate. NexTone also can tell whether there is a mismatched address in the call-setup process, which normally would prevent call setup or indi-

See SBC, page 41

A word on performance

In this inaugural test of session border controllers (SBC), it was not our intent to get into the minutiae of product performance, because SBCs have disparate feature sets and deployment options. That said, we can make some general assessments about SBCs based on the results of our sending modest levels of Session Initiation Protocol call traffic through them. SBCs' effects on call quality varied from essentially no degradation (mean opinion score [MOS] of 4.5, R-factor of 93) to measurable degradation (MOS of 3.9, R-factor of 85). SBCs also could add to call-setup time and latency; the extent appears to vary based on the power of the SBC hardware platform.

How we did it

The session border controller (SBC) test bed consisted of simulated enterprise and carrier sites, connected by a T-1 IP WAN link. The network infrastructure at both sites consisted of Extreme Networks Summit48 L2 and L3 switch/routers. Each SBC tested was configured and inserted, one at a time, into the test bed. The same carrier-side SBC, a leading carrier-class SBC from Sansay, the VSX, Release 6.7.2, was used in all cases.

A T-1 of simulated Session Initiation Protocol (SIP) traffic was generated and delivered from the carrier side by Touchstone Industries' WinSIP (Version 2.4.7) traffic generator. Another T-1 of simulated SIP traffic was generated from a Spirent Abacus 5000 (Version 3.2) SIP traffic generator from inside the enterprise. These enterprise calls were terminated at their respective matching endpoints at the carrier site across the WAN link. For consistency, all SIP calls and traffic from the enterprise had to traverse the Sansay VSX carrier SBC. This also provided a rudimentary view of SBC interoperability.

Tests were performed to assess each SBC's ability to handle standard-SIP calls, and G.711- and G-729-encoded Real-time Transport Protocol (RTP) VoIP streams. The SBCs were set to pass the traffic as sent. Voice quality was measured using automated International Telecommunication Union-standardized PESQ, PESQ-LQ and R-factor algorithms. Also measured were jitter, call-setup time and one-way latency. In addition, if supported, the SBC's ability to transcode the traffic to the simulated carrier was also tested.

Our intent with this testing was to verify features and gauge the effects of SBC processing on VoIP traffic flows. The load we applied was a modest T-1's worth, a few dozen concurrent calls in both directions. These products could reasonably be expected to handle hundreds, perhaps even thousands, of concurrent calls. Users shopping for an SBC will need to assure that call volumes at and beyond anticipated loads are supported on a sustained basis.

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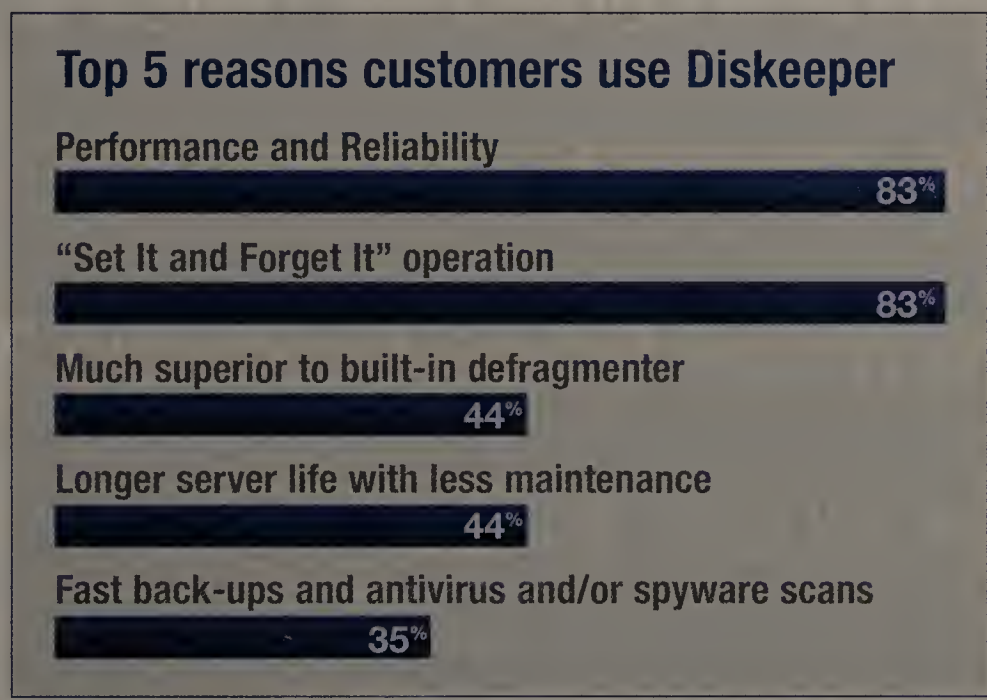

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(GET THE PROOF HERE: www.diskeeper.com/paper)

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SBC
continued from page 38

cate a possible threat. In this case NexTone will send call-control information to the source address — where the request actually came from — to set up an audio path and ignore what is the incorrect, possibly spoofed originating address. Here, the NexTone package must take over routing of the call, which it can do only because it can assume full SIP call control.

The downside to this product is its complexity. Installation and configuration require an onsite NexTone team, who configure the system to be left on its own. NexTone strongly suggests the NexTone University for training additional customer personnel who will configure and tune the system. Also, unlike some competitors, NexTone's package does not interact with any existing or legacy firewalls. This can be a major shortcoming for an organization that's comfortable with its embedded firewalls.

Ingate Systems

The strength of the Ingate SIParator 60 SBC centers on its solid firewall platform, which works with existing, legacy firewalls.

The Ingate firewall is SIP-aware, which means it understands and accommodates SIP protocol flows for opening and closing ports, address translation and so on. The SIParator is especially clear in its setup choices. You can configure it to handle just VoIP (while having another firewall handle all other firewall functions) or to handle all firewall processing. There's no underlying H.323 support — it's SIP-only — but the base firewall has been extended considerably with SIP-based VoIP features.

We spent the bulk of our testing time focused on how SIParator's firewalling integrated with its QoS capabilities. For example, we examined its ability to recognize and appropriately handle type of service and Differentiated Services values. We went through screens and configuration for categorizing call types into queues with different threshold, QoS and priority settings. We confirmed the system marked and handled traffic as expected.

Ingate has detailed SIP-configuration settings, so it is rich in that regard, but understanding and applying the appropriate settings requires more than typical knowledge of VoIP in general and SIP in particular, especially if you need to integrate the Ingate system to work with an existing firewall. Online help is available on a screen basis, but that can still be a pretty awesome task and entails dozens of technical settings. We checked the configuration screens, documentation and online help to make sure that it was clear how to attach this system behind a legacy firewall, split data from VoIP handling tasks and route between the two. We did not integrate this unit with any legacy firewall as far as our test process. We saw that deploying it in this manner was supported and documented.

There's also a full SIP proxy server on board the Ingate box, which allows it to participate in SIP call control. An SBC normally is not expected to interfere with or modify the SIP calling information. By containing a full SIP proxy server, however, the SBC can apply a higher level of oversight and involvement in SIP operations. For example, as a proxy server, the Ingate SBC can rewrite the SIP header of inbound and outbound call-setup messages on the fly, to accommodate particular SIP domain names and name changes.

The Ingate product offers no trend reporting, no call-quality reporting and no per-call quality assessment. Ingate monitors what is going on and provides real-time data, such as number of active calls and ports open, but it does not address any sort of cumulative data collection or reporting. The administrator of the SIParator can access a monitoring GUI, but what is available is limited andreported in real time; it might help troubleshooting somewhat, but not in facilitating any kind of trend reporting.

Near- and far-end NAT-traversal support make the Ingate product adept at getting VoIP calls through to the right destination, even with different near- and far-end firewall and NAT configurations in place. The Ingate SIParator also offers redundancy and VoIP survival features, such as alternate gateways, backup registration for callers, domain-availability checking and failback rerouting. It is also tightly integrated with Microsoft Live Communication Server 2005, for handling VoIP in conjunction with video, IM and presence applications.

Mera Systems

Mera Systems' Mera VoIP Transit Softswitch (MVTS) software-only SBC began life as a softswitch and is extremely rich in supported VoIP call-handling protocols and features. MVTS runs atop Red Hat Linux 9 on almost any high-end server platform (the more the better, as far as RAM and gigahertz).

Sophisticated call routing through this product employs a panoply of criteria, including time of day, QoS and precedence, and route load. Of the products tested, Mera supports the most complete transcoding — on-the-fly conversion between high-bandwidth G.711 VoIP Real-time Transport Protocol (RTP) streams and low-bandwidth G.729 streams. A host of other vocoders also are supported. SIP to H.323 translation is akin to the seamless gateway interworking that NexTone provides. To test the translation capabilities of the Mera product, we placed calls through it between an H.323 endpoint and a SIP endpoint on the other side and confirmed that these features worked as advertised.

Mera's software collects a lot of useful details about VoIP traffic and activity. It can collect and display dozens of para-

See SBC, page 44

NetResults

NETWORKWORLD CLEAR CHOICE

Product	NexTone Multiprotocol Session Controller (MSC) and iView Management System (iVMS)	Ingate SIParator 60	Mera VoIP Transit Softswitch	Ditech PeerPoint C100
Vendor	**NexTone Communications** www.nextone.com	**Ingate Systems** www.ingate.com	**Mera Systems** www.mera-systems.com	**Ditech Communications** www.ditechcom.com
Price	From **$46,000** to **$135,000** for MSC, depending on service and options; iVMS base product starts at **$85,000.**	**$25,630** for system tested (1,000 registered callers), including remote-Session Initiation Protocol (SIP)-connectivity, advanced-SIP-routing, VoIP-survival and QoS optional modules.	**$38,400** for system tested (300 concurrent calls); all-software product (Linux-based).	**$27,000** for system tested (250 concurrent calls).
Pros	Great, detailed reports on call quality and performance statistics; best administration, including alarms and provisioning; H.323 handling, interworking with SIP; rich and flexible call-routing configurability.	Full-featured, flexible, integral firewall; can deploy with existing, legacy firewall; various network address translation (NAT) environments supported (via optional module).	Broadest VoIP protocol support; full transcoding; supports several redundancy configurations; rich call-routing capabilities.	Flexible configuration, including NAT-traversal support; straight forward installation; special Microsoft Live Communications Server (SIP) support; VoIP encryption (Secure Real Time Transport Protocol), special support for VoIP conference servers.
Cons	No transcoding; high price tag.	No H.323 support; no transcoding; limited VoIP-quality and trend reporting.	Limited security (no direct protection from denials-of-service attacks; no firewall capabilities).	SIP-only protocol support; no integral firewall; limited VoIP-quality reporting.
Score	**4.2**	**3.6**	**3.4**	**3.4**

The Breakdown

	NexTone Multiprotocol Session Controller and iVMS	Ingate SIParator 60	Mera VoIP Transit Softswitch	Ditech PeerPoint C100
VoIP handling **40%**	4	4	4	3
Configuration **20%**	4	3	4	4
Security **20%**	4	4	2	4
Additional features **20%**	5	3	3	3
Total score	**4.2**	**3.6**	**3.4**	**3.4**

Scoring Key: 5: Exceptional; **4:** Very good; **3:** Average; **2:** Below average; **1:** Subpar or not available

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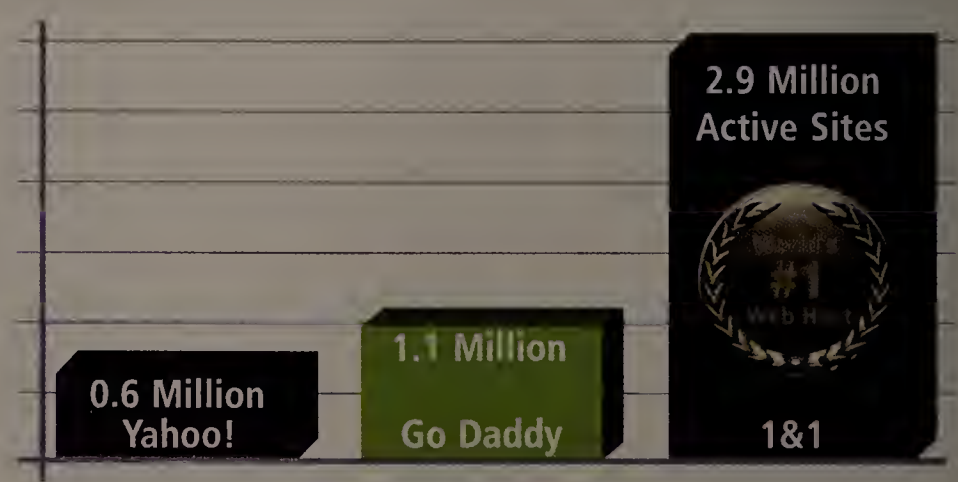

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Photo Gallery	✓	✓	✓
Dynamic Web Content	✓	✓	—
Web Statistics	✓	✓	✓
Chat Channels	✓	—	✓
Database	25 MySQL (Linux)	MySQL support	25 MySQL (Linux)
Search Engine Tools	✓	Extra charge applies	$29.95/year additional
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SBC

continued from page 41

meters about each call. These are stored in detailed logs, but in a confusing Linux-style format, which frustrates the useful consolidation and consumption of this data. While the product provides a lot of data, you've got to extract it in an ASCII log file via command-line entry. It's by no means a neat, legible graphical presentation of the information. It also doesn't provide much in terms of formatted reports or trend analysis.

Another shortcoming of the Mera package is security: There are no firewall capabilities and no direct protection from a DoS attack, for example. Enterprise users considering the Mera package will need to address firewall and intrusion-prevention system security separately.

Ditech Communications

Ditech's PeerPoint C100 is a Linux-based appliance that supports only SIP-based call control. Beyond VoIP call handling, this SBC provides rich firewall capabilities, as well as strong DoS-attack handling.

Many of these security features were demonstrated on monitored calls and showed a detailed level of settings for automatic protection. DoS-attack profiles can be created based on standard Internet protocols or detected call transmission rates. SIP protocol header fields also can be filtered actively to prevent details of the internal network from being broadcast to the Internet. Intelligent monitoring is used by the C100 to flag and monitor suspect incoming connections. The monitoring uses active scorekeeping and configurable timers to identify problem connections from an incoming client, who is then incrementally prevented and optionally reinstated for access back into the local network. This process, which can be configured by combinations of IP address, port number and dynamic message failure ratios, performs automatically without administrator intervention. Additional protection is provided by enabling examination of RTP, the standardized Internet content transmission format, to validate its declared content (audio and video), thus preventing a disguised executable from entering the system.

Other strengths include sophisticated near- and far-end NAT traversal (such as with the Ingate product), and Secure RTP (sRTP) encryption and Transport Layer Security (TLS: encrypted SIP call control) support. To check out Ditech's NAT traversal, we used Ditech's own method of querying the open call sessions and problems by sending and monitoring the results of SIP reinvites to both sides of the NAT. We captured and examined call sequences and RTP streams to confirm TLS and sRTP.

We give kudos to Ditech's installation because initial configuration and establishing settings are based on an embedded relational database that retains values entered and propagates the values to other screens and tabs in the system (to drop-down boxes, for example). This lets you avoid the arduous process of having to reenter the same data multiple times, and helps ensure valid entries in screens.

The vendor's adjunct Packet Voice Processor, which was not included in the configuration we tested, reportedly adds support for transcoding and other per-call quality measurement and reporting, and quality trend reports and intelligent packet repair.

Other noteworthy aspects of the Ditech package include: its tight compatibility with Microsoft Live Communications Server 2005; a special feature for keeping calls connected (called stateful failover, it worked seamlessly in our testing, with failover occurring in less than a second, resulting in no dropped calls); and what Ditech calls media path optimization, where the system decides whether to proxy media streams or allow direct point-to-point RTP communications.

The four SBCs tested all showed they could competently process and manage SIP-based VoIP calls between an enterprise environment and a simulated service provider, front-ended by a prominent third-party, carrier-oriented SBC. Interoperability between the carrier-side SBC employed in the test bed and the enterprise-based SBCs we tested did not prove to be a concern.

Emerging with the top score from this test round was NexTone, whose package we believe best suits a large enterprise — due to its high price tag, support for legacy H.323-based PBXs, and very detailed reporting that most benefits an organization with a dedicated VoIP admin staff. Ingate placed second, with a system that adds good SIP-based VoIP security to an enterprise that may want to retain its legacy data-network firewalls. Closely behind Ingate were Mera Systems and Ditech, which tied. Mera's software-only package favors enterprises with a lot of legacy VoIP, as it handles many forms of VoIP protocol and RTP stream conversion. Ditech's appliance provides enterprises with SIP-based VoIP, added security, call- and QoS-handling.

Mier is founder and president, Mosco and Tarpley are lab testers, and Smithers is CEO at Miercom, a network consultancy and product test center in East Windsor, N.J. They can be reached at: ed@miercom.com, amosco@miercom.com, rtarpley@miercom.com and rsmithers@miercom.com, respectively.

THE TIPJAR Get to know your VoIP network

1.) Know your VoIP network well in terms of equipment, protocols, traffic load. In addition to IP phones and VoIP gateways, you'll need a firm understanding of the other network components that may affect VoIP flows and your session border controller (SBC) deployment, including firewalls and intrusion-prevention systems, DHCP and DNS environments, and possibly some aspects of your Layer 2 and Layer 3 infrastructure.

2. Test all VoIP flows through SBC prior to going live.

3. Get your carriers and IP telephony vendors involved in the process. Do they have experience working with the SBC you've selected? Have they worked in combination with other service providers and the IP PBX vendors you have chosen? What are the preferred settings you need to have in place with regard to timers, rerouting messages, security settings and the planned SBC settings?

4. Remember your SBC objectives are improving security and saving money. Don't lose sight of why you're deploying an SBC. If, for example, VoIP call quality drops to the point where all or most calls are rerouted over the public switched telephone network, it may end up costing you more.

What session border controllers do: Comparative feature checklist

Note: A checkmark (√) indicates the product fully addresses this feature.

	Ditech PeerPoint C100	Ingate SIParator 60	Mera MVTS	NexTone MSC and iVMS
VoIP signaling and call handling				
Call load, bandwidth optimization		√	√	√
Full-featured firewall traversal	√	√		√
Session Initiation Protocol (SIP) to H.323 conversion			√	√
H.323 gatekeeper services			√	√
SIP proxy, redirect, other services	√	√	√	√
Real-time Transport Protocol/RTP Control Protocol termination and regeneration	√	√	√	
Transcoding (G.711-G.729, etc.)			√	
IP address resolution/management	√	√	√	√
Security				
Native, integral firewall		√		√
Topology hiding	√	√	√	√
Authenticate VoIP calls and callers	√	√	√	√
Open and close legacy firewall ports	√			√
VoIP network address translation	√	√	√	√
Prevention of denial-of-service attacks	√	√		√
QoS, quality monitoring, reporting				
Differentiated Services/types of services QoS handling	√	√	√	√
Monitors each VoIP call	√	√	√	√
Per-call quality rating (i.e., mean opinion score)			√	√
Issue call detail records		√	√	√
Call-quality trend reports				√

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On the job with an IT architect

Techie discusses the role and responsibilities his position with staffing firm Spherion entails.

Q&A

The position of IT architect has been growing in visibility with its signature responsibility of blending technology and business goals. George Drazick has spent 3 1/2 years in that role at Spherion, a staffing and recruiting firm with $2 billion in annual revenue and more than 300,000 employees worldwide.

Now transitioning into the role of director of technology, he recently talked with *Network World* Senior Editor John Fontana about how Spherion defines the IT-architect role, what the responsibilities are and how important it is to marry systems, applications and business requirements.

Can you define the role of IT architect?

We have two functions they fill: one is a systems architect, and one is an applications arch. When you bring those two together you really get your lead IT, or enterprise, architect from a technology standpoint.

In this role, not only is the understanding of technology important but also the ability to articulate the interrelationships of business and technology models.

Give me a rundown of your responsibilities.

No. 1 on my mind all day is application and system performance. Security, standards; implementation of standards across the board whether they apply to systems and operating systems for the application. That is in terms of the KnowledgeSphere [Spherion's ERP integration of four applications: financials, human capital management, front office and services procurement], reporting applications, as well as our latest deployment of portal and our implementation strategy. Also guidance for longer-term strategy for building an application technology model that is able to accommodate the business's changing needs.

What is your experience, your background?

I started as a systems architect. I was really focusing on server technologies to enable the applications that we were deploying. As time went on, though, and I worked for PeopleSoft and Dun & Bradstreet, I gained more knowledge of the applications and focused first on decision-support systems — reporting, warehousing, data-marting — applications that enabled business intelligence.

What sort of initiatives are on the board for you now?

One is an implementation of a new business-intelligence platform where enterprise data-marting and reporting are the focus. Second is the actual upgrade, which is an area where application system architects are heavily involved. These application upgrades are usually one-year-to-18-month projects and require looking at every piece of the architecture, every piece of the application, every piece of security that the system has run on.

What are some of the challenges you face in this position?

Influencing all parties that are concerned with the environment, all of those that have a stake in it, so they see a unified view.

Where does this position fit in terms of the overall IT department's organizational chart?

My position reports directly to our CIO.

What did it take to get into this position?

You come up through the ranks, but there has to be some expertise that you are able to provide. For me, it was working with Dun & Bradstreet. I first worked in a support organization and then found my way into a decision support role.

At some point, I moved to the development organization and had a chance not only to play in the administration of the environment but to actually see the development and understand how a developer would go about building applications. Dun & Bradstreet led to PeopleSoft and another intensive round of low-level expertise and practice, which led me to Spherion.

George Drazick, IT architect for Spherion, serves as a proponent of the staffing company's overall business strategy.

SCOTT BEAL

How have you seen this role mature over the past four or five years? Currently companies seem to be applying the concepts of this role to more fine-tuned areas, such as networking and specific applications.

I have seen it change truly from a technical heads-down role into a more visible, more social role filled by someone who is able to socialize the ideas, thoughts and strategies and has the people skills to be able to span the divide that exists between certain technical groups or certain technical functions.

Previously, I think we as architects were purists in terms of technology. People that would deliver what they thought were the best solutions and then leave them on the table for others to implement.

How does this position translate into helping Spherion generate revenue?

Increasing overall application performance, streamlining systems and application administration and creating a more flexible architecture to allow technology to be taken out of the business decision-making process, which enables us to be more nimble as an organization.

What sort of pay scale is associated with this position?

Industrywide across the board, I've seen the scale range anywhere from $85,000 to $180,000. ■

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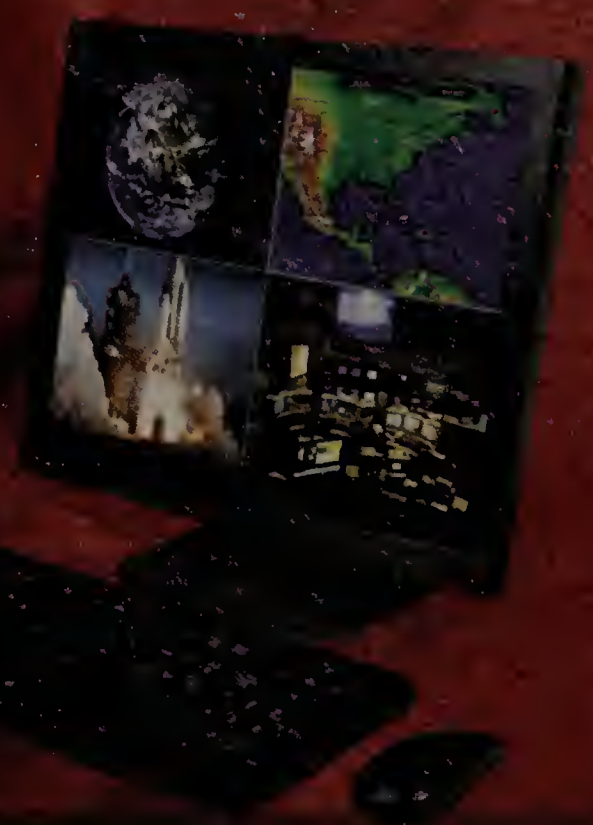

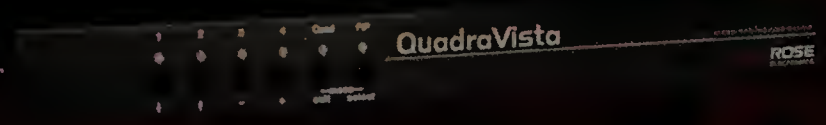

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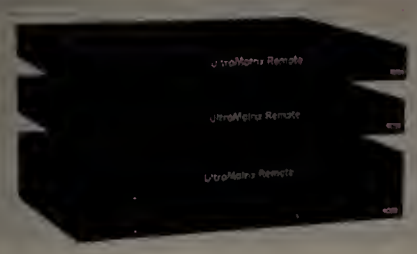

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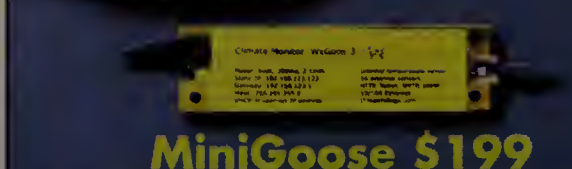

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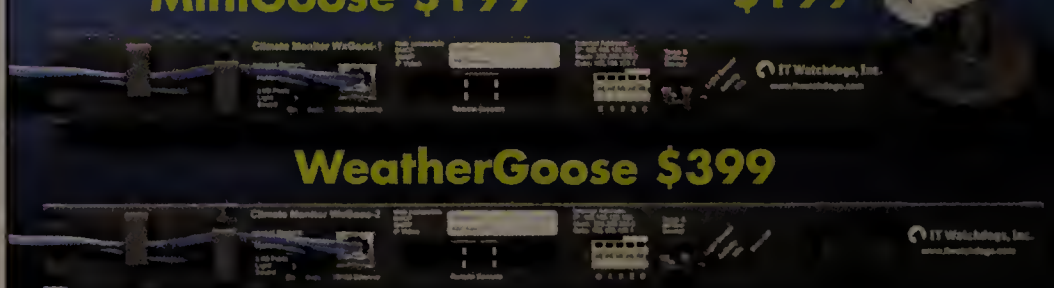

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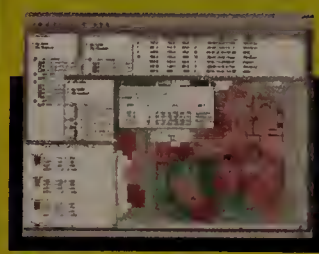

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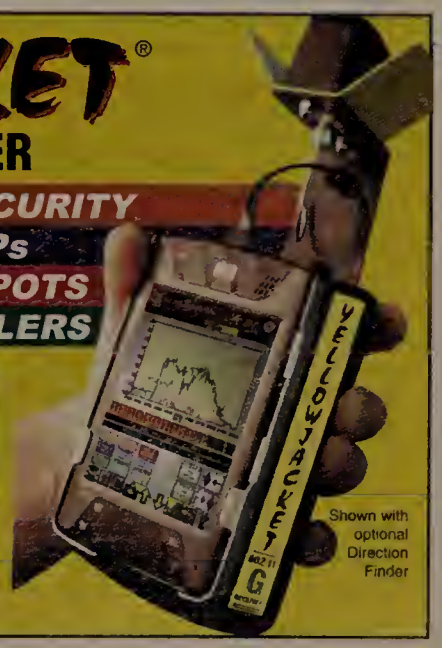

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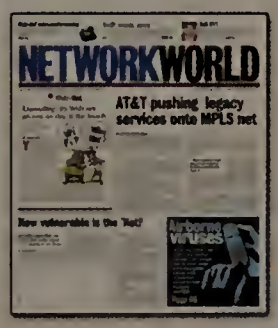

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Search
continued from page 1

search domain, but many don't know when to do so. The thought of having an index of company information under the control of a third party is cause for alarm among some IT executives.

"Customer data is scattered all over the IT landscape," says Albert Porco, CIO at Kings County Medical Center. "My biggest concern is that with access from anywhere at anytime, end users can load these tools on their home computers and not only expose their personal data but also expose corporate data."

> "My biggest concern is . . . end users can load these tools and not only expose their personal data but also expose corporate data."
>
> *Albert Porco, CIO, Kings County Medical Center*

That's one reason the Brooklyn, N.Y., medical facility locks down its desktops. "Desktop support is hard enough, but when users add untested software to the mix, support becomes impossible," Porco says.

Averting desktop disaster

Desktop search technology has been around for many years and available from vendors such as dtSearch, ISYS and ZyLab. But it wasn't until fall 2004 when Google got into the market, that things took off.

"It was a sleepy backwater. There were four or six vendors, none of which had seen a substantial amount of business," says Whit Andrews, a research vice president at Gartner. "Then suddenly Google released, and Yahoo had to respond, then Microsoft responded. Google released Google Desktop beta, and it was explosive."

Users familiar with these vendors' public Web search sites — and in many cases dissatisfied with the search features built into Microsoft Outlook, for example — installed these programs on their own to help tame their desktop contents.

But it's the IT department that has to worry when free desktop search tools expose the contents of a forgotten file server, conflict with a homegrown application or render a PC unusable.

"We have to spend our time removing the applications from end user desktops, changing configuration settings back to default, and possibly repairing damage to the operating system caused by malfunctioning software that isn't tested properly and approved by us," says Craig Bush, network administrator at orthopedic and medical device provider Exactech in Gainesville, Fla.

As users increasingly deploy free consumer-oriented search tools, the management problem escalates.

"This issue is becoming a challenge because we don't have a policy in place, so it is now open season," says Priscilla Milam, associate vice chancellor for IT operations at North Harris Montgomery Community College District. "It makes our network vulnerable and creates security issues across the district."

Milam's priority in her new role at the Woodlands, Texas, campus is to create and implement a standardized desktop policy that she says she hopes to have in place in the fall. Milam plans to select a desktop search product that can be tied into the district's Active Directory and forthcoming identity-management infrastructure. But ironing out desktop policies has to come before the product selection process.

"We are currently doing a security awareness public relations campaign that gets the word out to our users about the risks involved with these search tools and other practices," Milam says. The campaign has been well received — many employees have voluntarily chosen to remove some desktop tools until they have further guidance from IT, she says.

Amerigas doesn't have a problem with users downloading the free tools because its desktops are locked down. But users want them, so the company is on the lookout for a desktop search product that can be used with SharePoint and Active Directory, says Martin Gibbins, client technology manager at the Valley Forge, Pa., company. "Searching for information is important," he says.

Take a stance

Companies that don't address the topic of desktop search are making a mistake, Andrews says. Left unchecked, more and more users will download whatever search product they like best. IT will wind up with a hodgepodge of free products, none of which include vendor support. "This is not conducive to success for an enterprise," Andrews says.

Instead, companies should choose one desktop search product, arrange for an enterprise license and support it. When companies license an enterprise version of a desktop product, they can arrange for support services from the vendor.

There also are security incentives: Enterprise versions typically include tie-ins to directory products so the IT department can use existing user and group permissions to restrict search result sets, for example. IT also can opt to give users query capability but retain control over what gets indexed and how the index is updated.

"That puts you in a position with all kinds of flexibility you didn't have before," Andrews says. "You can manage the indexing, the security and the integration — or lack thereof — to enterprise search platforms. And you can make sure it's meeting your regulatory needs."

Making a selection isn't easy, but there are plenty of options to consider. Google offers an enterprise version of its desktop search, as do MSN and Yahoo. Google also offers premium support services, which cost $20,000 for two years and unlimited users.

Yahoo's desktop search product is based on technology from X1 Technologies, which offers its desktop search products directly to users. X1 has a client version of its desktop search software, as well as a server edition for companies that want to have enterprise management capabilities. For example, the X1 Enterprise Server provides a central indexing engine for network-based content sources and uses Windows Authentication for security integration.

In addition, vendors with tools for searching content on Web sites and intranets are paying more attention to the desktop search market. Fast Search & Transfer and Autonomy have built desktop search products, and Endeca and IBM have added desktop search capabilities to their suites via partnerships, Andrews says.

Key to making a decision about which platform to choose is to test it, observers say. There are too many unknowns in desktop environments to skip a pilot, Andrews says.

One Gartner client tried a desktop search application and found it conflicted with one of its homegrown applications. "Something went wrong somewhere," Andrews says. "They liked it better than the one they had to pick, but they could not make it work."

Another client found a desktop search application caused performance problems on some PCs and caused others to have to be reimaged, he says.

Some of these problems are caused by some products' consumer roots. "If something is built for consumers, there's more emphasis on turning it around quickly to grab market share, grab visibility and meet the vast majority of needs, not the entirety of needs. There's less attention paid to some critical factors," Andrews says. ■

Enterprise spin

Desktop search tools typically reside on end users' desktops and use local processing power to locate items within e-mail and data stores. Free versions get the job done, but enterprise-class applications add management and security features including:

- Product support services.
- Hooks to directory servers so IT can use existing user and group permissions to restrict search result sets.
- Option to deploy query-only capabilities to desktops and maintain centralized control over content indexing.
- Control over taxonomy and categorization parameters.
- Encryption of user data and search index files.
- Greater support for file formats and search methods.
- Management features tailored for enterprise licensing, installation.

■ **Network World**, 118 Turnpike Road, Southborough, MA 01772-9108, (508) 460-3333.

Periodicals postage paid at Southborough, Mass., and additional mailing offices. Posted under Canadian International Publication agreement #40063800. Network World (ISSN 0887-7661) is published weekly, except for a single combined issue for the last week in December and the first week in January by Network World, Inc., 118 Turnpike Road, Southborough, MA 01772-9108.

Network World is distributed free of charge in the U.S. to qualified management or professionals.

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Network World can be purchased on 35mm microfilm through University Microfilm Int., Periodical Entry Dept., 300 Zeeb Road, Ann Arbor, Mich. 48106.

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BACKSPIN Mark Gibbs

Why high tech is at fault

Ever get complaints about high tech from your workmates, friends and family? Happens all the time, doesn't it? Your boss gets a new cell phone, and it doesn't work the same way as her last one, and you wind up being the bad guy, because you can't explain it to her, and she's not really interested in the first place.

Or a new version of one of your company's productivity applications is installed, and despite having sent around memos warning everyone and providing user guides and offering training, the first day it is available any and every problem seen by the users is a disaster on par with humanity being wiped out by a meteor, and it is all your fault.

Despite megayears of complaints by consumers of all levels of ability, in many major high-tech companies engineers still get to build products without parental oversight. Motorola is an example. Have you ever looked at the Razr? Nice design on the outside but the user interface is horrible and dust accumulates between the LCD screen and its cover. Pathetic!

The result of engineers having their evil way with products is almost always that hardware or software will work provided you use it exactly as they say, or you are an engineer. Otherwise, you'll need an aspirin and lots of luck or a consultant. Or all three.

Next, manuals. Manuals are not good for anything other than padding the equipment in transit (again, the Razr manual is a good example). It seems that the idea of writing manuals in, say, Urdu, having them translated into Latvian by Japanese schoolchildren and then back into English by machine translation makes more sense than writing them in English. Why is it that product managers seem to never pay any attention to manuals? It is like they can't see them, and anytime you bring up the topic they act like you are speaking in tongues.

Those are bad enough, but worse are yet to come. How about the way high-tech companies keep changing user interfaces? I suspect that user interface design is a contact sport as far as marketing is concerned. For example, ever notice how many programs have the same features from one release to the next but often in totally different places? And the shortcut keys change so that whatever was "copy" becomes "delete all," and whatever was "undo" becomes "quit without warning and shut down the PC after erasing the hard drive."

What about hardware design? Why is it always working against you rather than for you? For example, why are plugs and sockets on equipment always squashed together so that you need fingers the size of a 5-year-old to get at them, and why are they labeled so that their functions can be discerned only in full sunlight if you have perfect vision and a magnifying glass?

And the biggie: support. The average user support group is a disaster. It is like trying to get blood from a stone. They are frequently more bureaucratic than the IRS and have the customer-care skills of Attila the Hun. They live in a netherworld of too little time and too many problems from too many people while not being paid enough. And their management never actually talks to them. Is it any wonder they take it out on you?

So what I'm trying to tell you is that it isn't your fault. You are in the clear. You do your bit to bring light and reason into the world, and you are simply being thwarted by forces far greater than yourself. So take heart . . . even though it is going to get worse before it gets better, at least you are assured of employment, because, while everyone will blame you as always, you will still be the only guy who can make this stuff work for them.

Your faults to Gibbsblog or send 'em over to backspin@gibbs.com.

Paul McNamara

NETBUZZ News, insights and oddities

When 'must-see TV' hits your network

What do you say we plop a TV set on the desk of every employee in your organization.

Sounds nuts, you say? . . . Already done, isn't it?

Aren't PCs with a broadband connection becoming more indistinguishable from a TV with each passing day? Much of college basketball's March Madness tournament was available — live — thanks to the good folks at CBS, who were so cognizant of what that would mean for network managers that they offered advice for blocking the broadcasts. ABC just made a splash by announcing it will offer free online access to prime-time programs such as "Desperate Housewives" and "Lost" the day after they air. . . . Can the soaps be far behind?

Here's a pitch I saw from one Web site: "Take A Quick TV Break! Are you feeling that the day is getting too long and you're falling asleep at your desk? Sneak in a quick energizer. Let us show you how to use your PC to catch a comedy just to brighten your day, update yourself with a quick news clip, or watch your favorite artist's music video!"

Knowing those exclamation points would register as darts for network professionals, I turned last week to the members of my blog's e-mail list — the Buzzblog Brigade — for their views on this PC-to-TV evolution. What follows is some of their venting:

"We're going to see a lot more places clamping down. For starters, bandwidth has limits, and if a large portion of a workplace's population is watching 'Lost,' that isn't going to be good for network performance," writes John Gog, network system administrator for the city of Birmingham, Ala. "But my bigger issue is the waste of time. I get very tired of hearing how people are working soooo many hours, when those same people (in many cases) are spending hours each week doing personal surfing. Having survived the NCAA tournament, which had users watching games and spending time fiddling with their brackets, the thought of them now watching primetime programming during work hours is sickening."

And let's not forget the audiophiles.

"We have already found ourselves having to block radio station Web sites," writes Bill Dotson, IT manager for Crown Packaging in Chesterfield, Mo. "Users don't realize (or even consider) the amount of bandwidth it takes to listen to streaming audio. I'm sure they'll give equal consideration to bandwidth when watching television over the 'Net. And since many of those 'televised' programs come from sites that are not blocked by our Web filters, I'm sure we'll struggle to prevent users from bringing our network to its knees while they watch 'Desperate Housewives' at their desk."

"I fully expect at some point someone will download an entire episode of some TV show and then e-mail it to one of their friends, further bogging down our network. Maybe educating users about bandwidth-intensive activities is the way to go. Then again, maybe I can teach a turtle to tango."

Some workplaces are already in just-say-no mode.

"My company has already clamped down. No March Madness. No Internet radio," writes Howard Stewart, RIS/PACS administrator at Southern Ohio Medical Center in Portsmouth. "They don't mind us wasting a little time on low-bandwidth activities, but until we see some major upgrades to the network infrastructure we won't be getting any Web TV."

And at least one reader sees hope on the horizon.

"Sure, every PC is now a TV/storm drain for bandwidth. But with the proliferation of attack-mitigation devices and Internet-filtering appliances, our job is getting a little easier — at least on the technical side," writes Glenn Freel, a systems administrator.

"We are currently filtering Web use through a URL-based appliance. We're also employing a device that gives very customizable and automated reports based on top destination ports, source or destination IP addresses, machine names, users ranked by traffic, or any activity on ports known to be [peer to peer] or other problem areas.

"I try to keep on top of things, such as knowing beforehand that CBS was going with the March Madness deliveries. But with the proper precautions in place, most of my worry was whether I could resist the temptation myself."

Want to join the Buzzblog Brigade? Just let me know at buzz@nww.com.

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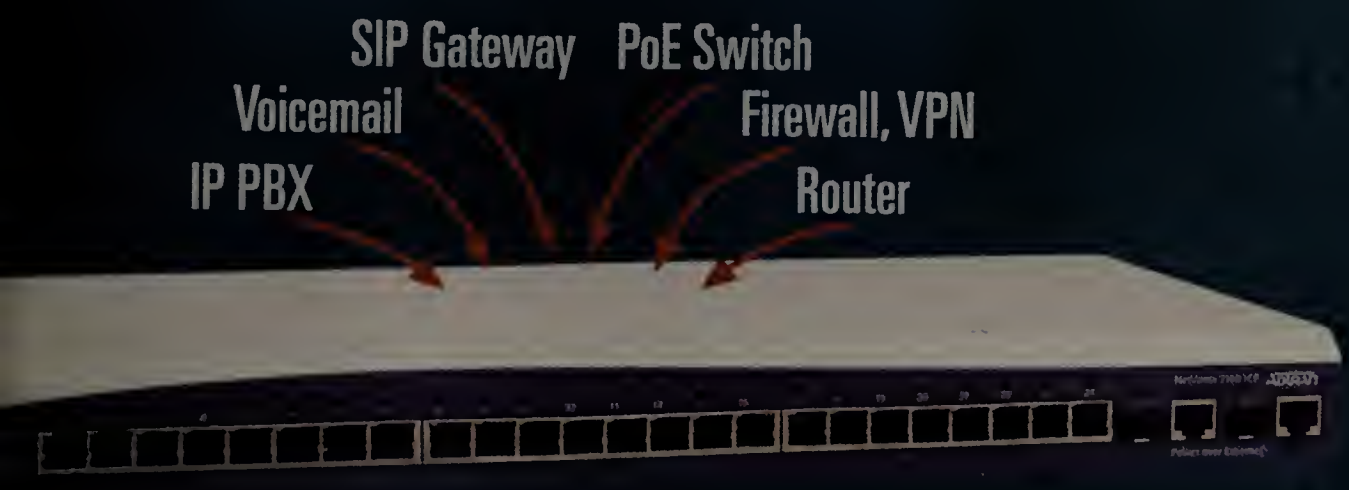

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